



# Factors Affecting the Effectiveness of CBT Implementation in Student Learning Evaluation Using UTAUT: A Case Study at SMAS Katolik Sint Pieter Waikabubak

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**Abstract:** This study examines the digital transition in the student learning evaluation system at SMA Katolik Sint Pieter Waikabubak through the adoption of a Computer-Based Test (CBT) application. Although CBT has been in use since 2023, persistent issues — including unstable internet connections and limited exam monitoring features — have raised legitimate questions regarding its operational effectiveness. This study aims to evaluate the effectiveness of CBT in student learning assessments and to identify the factors that shape students' behavioral intention to use the system. A quantitative approach grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT) was applied. The findings demonstrate that CBT adoption has measurably improved the transparency and accuracy of learning evaluations. Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions each exert a statistically significant effect on students' intention to use CBT, with Perceived Usefulness emerging as the strongest predictor. Age and gender were found to moderate several of these relationships. The results indicate that adequate school infrastructure and an accessible application interface are decisive factors in the success of exam digitization. Schools are advised to continue strengthening their technical and physical support systems to sustain long-term adoption of this technology.

**Keywords:** Catholic High School; CBT; Efficiency; Learning Evaluation; UTAUT.

## 1. Introduction

The rapid advancement of information and communication technology has reshaped nearly every aspect of modern life, and education is no exception. Digitalization in the educational sector carries specific objectives — among them, improving the effectiveness of teaching and assessment practices (Rizal & Fatah, 2022; Setiawan *et al.*, 2022). One of the most visible expressions of this shift is the adoption of Computer-Based Test (CBT), a method of administering exams and evaluations through computer media (Septiana & Rohmadi, 2024). Technically, CBT operates on a client-server architecture accessible via a local area network (LAN) with

a web-based interface, allowing exam administration to be conducted in a more structured and centralized manner (Makmun *et al.*, 2024; Septiana, 2021).

SMAS Katolik Sint Pieter Waikabubak, located on Jalan Wee Karou, Loli District, West Sumba Regency, East Nusa Tenggara Province, began implementing a CBT application in 2023 with the aim of improving the efficiency and accuracy of its student assessment process. The system was expected to reduce scoring errors, accelerate exam administration, and provide more objective evaluation outcomes. In practice, however, the implementation has encountered a number of recurring problems. Limited monitoring features have left room for academic dishonesty during exams. Unstable internet connections have triggered repeated login resets, causing student scores to go unrecorded. These are not isolated technical glitches — they represent systemic vulnerabilities that directly undermine the reliability of the assessment process and place exam participants in situations beyond their control.

Given these conditions, a structured analysis of the CBT system is necessary to assess user acceptance levels, operational effectiveness, system security, and overall efficiency — with the goal of improving the quality of CBT-based evaluation and learning (Hozair, 2024). This study applies the Unified Theory of Acceptance and Use of Technology (UTAUT), a theoretical model developed by Venkatesh *et al.* (2003) to explain the factors that determine how individuals and organizations accept and use technology. The UTAUT model identifies four primary constructs — Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions — as the main drivers of technology acceptance behavior. This study aims to determine the effectiveness of CBT use in student learning evaluations at SMAS Katolik Sint Pieter Waikabubak and to identify the factors that shape its adoption. The central research question is: what variables or factors influence the effectiveness of CBT use in student learning evaluations at SMAS Katolik Sint Pieter Waikabubak?

## 2. Related Work

Several prior studies served as references in the development of this research. Bella Putri Oktavia (2020) examined the effectiveness of CBT program implementation among Grade X Accounting students at SMKN A Madiun using a qualitative case study approach. ESI Damasari (2023) studied the use of Microsoft 365-based CBT through Microsoft Forms with a descriptive qualitative method, focusing on its application in the Year-End Assessment (PAT). Sutarso *et al.* (2023) directed their work toward supporting schools in adopting CBT for exam implementation using the Service Learning method. Udayana and Wardani (2021) compared the processes and effectiveness of Computer-Based Test (CBT) and Paper-Based Test (PBT) systems in midterm examinations, including an assessment of student readiness for each format, using descriptive qualitative methods. Hozair (2024) evaluated user satisfaction with a CBT application at the Faculty of Engineering using the PIECES method, with the aim of informing future application development.

Table 1. Comparison of This Research and Previous Studies

Researcher	Previous Studies	This Research
Bella Putri Oktavia (2020)	Qualitative methods to determine the effectiveness of CBT program implementation.	Uses UTAUT to identify factors of technology acceptance.
ESI Damasari (2023)	Descriptive qualitative approach to understand the use of Microsoft 365-based CBT in the Year-End Assessment (PAT).	Uses UTAUT to identify factors of technology acceptance.
Sutarso <i>et al.</i> (2023)	Service Learning to support schools in adopting CBT in exam implementation.	Uses UTAUT to identify factors of technology acceptance.
Udayana & Wardani (2021)	Descriptive qualitative methods to describe CBT and PBT processes, student readiness, and effectiveness in midterm exams.	Uses UTAUT to identify factors of technology acceptance.
Hozair (2024)	PIECES method to measure CBT user satisfaction.	Uses UTAUT to identify factors of technology acceptance.

### 2.1 State-of-the-Art Research

Prior research on CBT has largely concentrated on implementation quality, user satisfaction, and technical performance, employing methods such as PIECES analysis, descriptive qualitative approaches, and service learning frameworks. While these studies offer useful perspectives on how CBT operates in practice, most have not examined the psychological and social dimensions that determine whether students genuinely accept and choose to use the system. This study addresses that gap by centering its analysis on the behavioral and

social factors that drive technology acceptance among students, drawing on the UTAUT model as its theoretical basis.

## 2.2 Review of Technologies, Frameworks, and Algorithms

A CBT application is a computer-based assessment system designed to help teachers administer tests and evaluations in a more controlled and efficient manner (Restu Ningsih *et al.*, 2020; Rosmaladewi *et al.*, 2023). In educational settings, CBT functions as both a delivery mechanism and an evaluation tool — replacing paper-based methods with a digital platform through which participants answer questions via computers or internet-connected devices, while administrators manage and monitor the process in real time (Restu Ningsih *et al.*, 2020). The system is built to measure students' knowledge and abilities with greater accuracy, reduce administrative overhead, and minimize the scoring errors that are common in manual exam processes. In short, CBT represents a practical application of computer technology to the assessment process, with efficiency and objectivity as its primary goals. The UTAUT model was developed by Venkatesh and colleagues in 2003 to explain users' behavioral intentions and actual usage patterns in the adoption of information technology within organizational settings (Venkatesh, 2022). The model consolidates elements from eight earlier theoretical frameworks — including the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) — into a single, more complete account of technology adoption behavior. UTAUT is structured around four core constructs: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions (Venkatesh, 2022).

Performance Expectancy refers to the degree to which a user believes that using information technology will improve their performance outcomes. This construct is moderated by gender and age. Effort Expectancy captures the perceived ease of using a system and its direct effect on reducing workload, moderated by gender, age, and prior experience. Social Influence reflects the extent to which an individual's decision to use a technology is shaped by the expectations of people in their surrounding environment, moderated by gender, age, experience, and voluntary use. Facilitating Conditions measure the degree to which a user believes that the organizational and technical infrastructure necessary to support system use is in place, moderated by age and experience (Aprianto, 2022). One practical strength of the UTAUT model is that its constructs are clearly defined and applicable across a wide range of technology adoption contexts. The model also permits the addition of domain-specific indicators beyond the original four constructs, giving researchers the flexibility to tailor it to the particular technology or user group under study (Aprianto, 2022). This adaptability makes UTAUT well-suited for examining CBT adoption in school settings, where technical, social, and institutional factors interact in ways that simpler models may not fully capture.

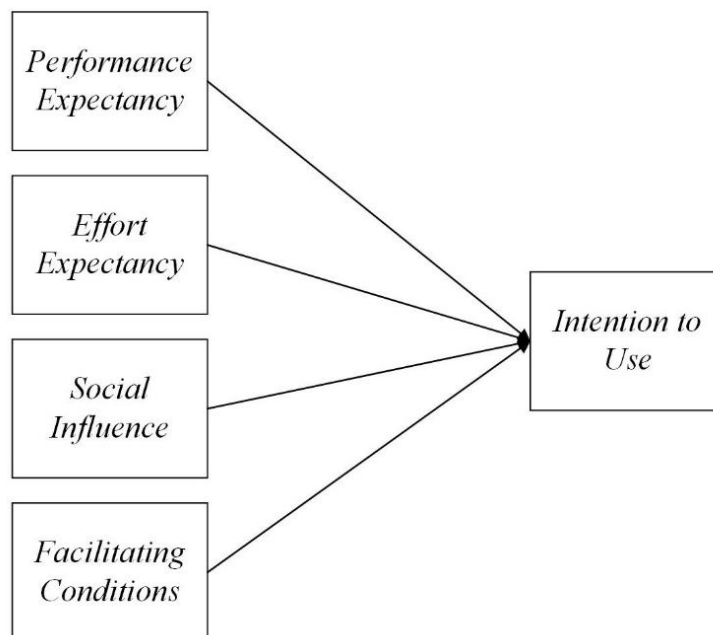


Figure 1. Original UTAUT Model (Venkatesh, 2022).

### 3. Methodology

This research uses a quantitative method (Dr. Arif Rachman, 2024) employing the Unified Theory of Acceptance and Use of Technology (UTAUT) model. In the research process, the factors influencing the effectiveness of using CBT for student learning evaluation at SMAS Katolik Sint Pieter Waikabubak are as follows:

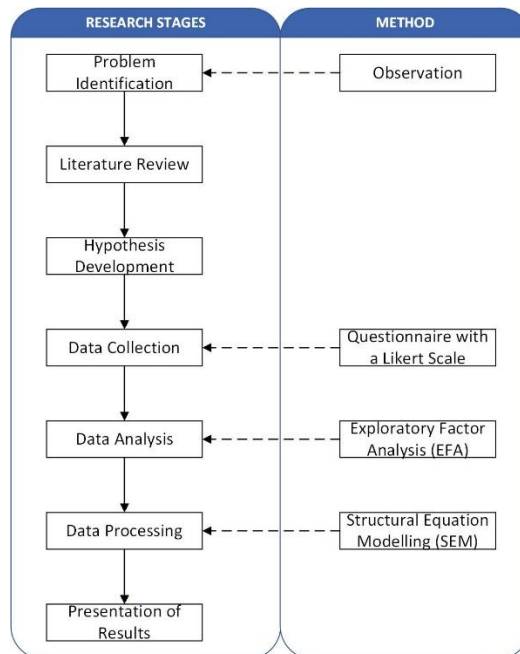


Figure 2. Research Stages (Dapadeda *et al.*, 2025)

#### 3.1 Problem Identification

The use of technology to assess student learning outcomes is increasingly developing in the contemporary education world. One of these innovations is the implementation of Computer-Based Test (CBT) as an alternative evaluation method to replace paper-based exams. CBT offers many advantages, such as reducing printing costs and saving time, but it is not always used effectively in educational institutions (Dr. Arif Rachman, 2024).

#### 3.2 Literature Review

The evaluation of computer-based learning (CBT) is becoming increasingly popular at various educational levels. The creation of the UTAUT (Unified Theory of Acceptance and Use of Technology) (Venkatesh *et al.*, 2003), helps analyze various factors that influence the acceptance and use of technology by users, particularly students, to understand the level of success and effectiveness of its implementation (Dr. Arif Rachman, 2024).

#### 3.3 Hypothesis Development

A hypothesis is a conjectural statement about the relationship between two or more variables and a temporary answer to the research problem formulation. A hypothesis must be tested with empirical data (Aprianto, 2022). The UTAUT Model proposed in this study can be seen in Figure 3; which consists of Performance Expectancy (PE) which is the extent to which users believe technology will enhance productivity (Venkatesh, 2022), Effort Expectancy (EE) which is the level of ease associated with using the system (Venkatesh, 2022), Social Influence (SI) which is the extent to which individuals feel that others believe they should use the new technology, Facilitating Conditions (FC) which is the belief that technical and organizational infrastructure exists to support the use of technology (Venkatesh, 2022), and one factor from the Technology Acceptance Model (TAM) which is Perceived Usefulness (PU) which is the level of trust or belief that the use of a particular technology, system, or application will enhance their performance, productivity, and effectiveness (Momani, 2020).

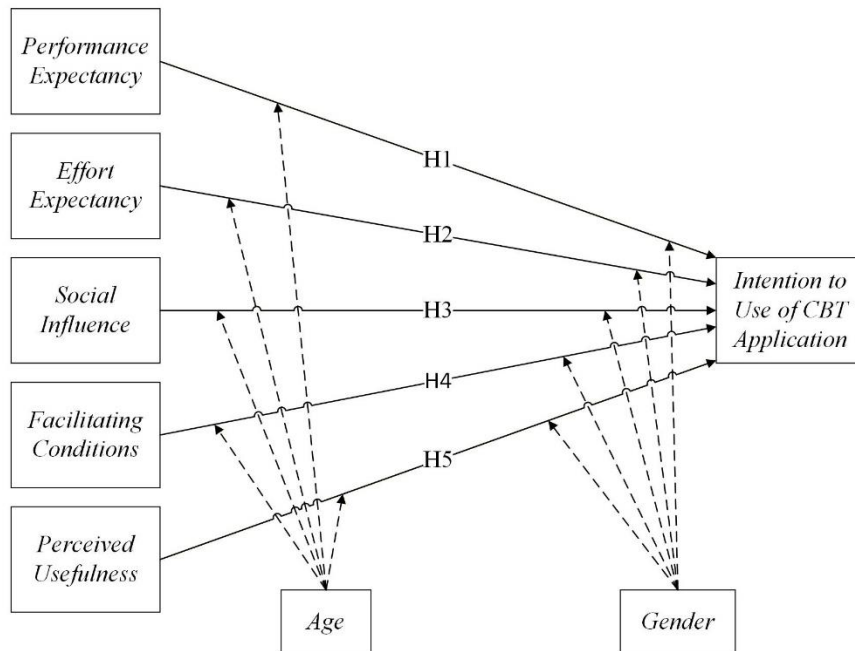


Figure 3. Proposed Model

1. Performance Expectancy (PE)  
 If the application is considered capable of improving performance or outcomes, such as speeding up the exam process, increasing efficiency, or providing more accurate results, users are more likely to be interested in using it (Venkatesh, 2022), thus leading to the following hypothesis:  
 H1: Performance expectancy has a positive and significant effect on the intention to use the CBT application.
2. Effort Expectancy (EE)  
 Users will be more interested and more willing to use applications that are considered easy to use and do not require much effort (Venkatesh, 2022), thus leading to the following hypothesis:  
 H2: Effort expectancy has a positive and significant effect on the intention to use the CBT application.
3. Social Influence (SI)  
 A person's decision to use the application can be influenced by social support (SI), such as encouragement from friends, teachers, or supervisors (Venkatesh, 2022), leading to the following hypothesis:  
 H3: Social influence has a positive and significant effect on the intention to use the CBT application.
4. Facilitating Conditions (FC)  
 If users feel they can use the application easily and smoothly, such as with devices, internet access, and technical assistance, they will find it easier to use (Venkatesh, 2022), thus leading to the following hypothesis:  
 H4: Facilitating conditions have a positive and significant effect on the intention to use the CBT application.
5. Perceived Usefulness (PU)  
 The CBT application is considered more effective when users, particularly teachers and students, believe that it speeds up, is accurate, and is objective in assessment (Momani, 2020), thus resulting in the following hypothesis:  
 H5: Perceived Usefulness has a positive and significant effect on the Intention to use the CBT application.
6. Intention to Use of CBT Application (IU)  
 The tendency of users to use computer-based testing applications to conduct tests or evaluations digitally. This intention is influenced by the fact that the system is considered effective and easy to use, as well as the belief that the CBT application can conduct a more transparent, efficient, and accurate examination process than conventional examination methods. The computer-based test application is believed to enhance user comfort and support the implementation of objective and structured exams in educational and training environments due to features such as automatic time settings, quick assessments, and flexible access.

### 3.4 Moderating Factors

Moderating factors are used in the UTAUT model to determine whether the influence of the main variables (PE, EE, SI, FC, and PU) on intention and behavior differs among user groups. Differences in perceptions between men and women regarding the acceptance and use of technology, with men expecting more

functional benefits (Expectancy of Performance) and women expecting ease of use and support (Effort Expectancy and Social Influence). Older students tend to use technology more confidently, do not rely on assistance, and accept technology more openly. Younger students may need more technical support and might view CBT technology as a challenge.

### 3.5 Population and Sample

This study tracks all active 12th-grade students at SMAS Katolik Sint Pieter Waikabubak who have used the Computer-Based Test (CBT) application in their learning evaluation. This population consists of 156 students in the 12th grade for the 2024/2025 academic year, and they were selected because they have directly used the CBT application, allowing them to provide relevant information about the facts (ABDUL GANI JAMORA NASUTION, 2020). A sample is a part of the population that is considered to represent the entire population for research purposes (ABDUL GANI JAMORA NASUTION, 2020). The determination of the sample size in this study uses the Slovin formula, with an error tolerance level of 5% or 0.05 (Nadhilah Idzni Majdina, 2024). If the total number of students in the 12th grade at SMAS Katolik Sint Pieter Waikabubak is 156, then the number of samples taken is calculated as follows:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{156}{1 + 156(0,05)^2}$$

$$n = \frac{156}{1 + 0,39}$$

$$n = \frac{156}{1,39}$$

$$n = 112,23$$

Thus, the number of samples used in this study is 112 student respondents. The sample in this study was determined using the Purposive Sampling method, which is a sampling technique based on certain considerations (Dapadeda *et al.*, 2025). The consideration in this study for using the Purposive Sampling method is the criterion that the respondents are students of SMAS Katolik Sint Pieter Waikabubak.

### 3.6 Questionnaire Preparation

This research uses the Unified Theory of Acceptance and Use of Technology (UTAUT) model approach to measure students' perceptions of the effectiveness of using the Computer-Based Test (CBT) application. This questionnaire was created based on the main indicators of the UTAUT model and adjusted to the learning evaluation at SMAS Katolik Sint Pieter Waikabubak (Blut *et al.*, 2022). First, the researcher conducts a process called a Pilot Study, which is the testing of the questionnaire material on several respondents (10-20 respondents) (Dapadeda *et al.*, 2025). The purpose of this Pilot Study is to test whether the questions or statements are appropriate and easily understood by the respondents, so that the distributed questionnaire material is truly appropriate and easily understood by the respondents (Dapadeda *et al.*, 2025).

Table 2. Questionnaire

No.	Factors	Symbol	Question/Statement	Source
1	<i>Performance Expectancy</i>	PE1	The CBT application helps me improve my learning evaluation results.	(Venkatesh, 2022)(Blut <i>et al.</i> , 2022)
		PE2	Using the CBT application makes me more confident in facing exams.	
		PE3	The CBT application helps me achieve good learning performance.	
		PE4	The CBT application allows me to complete practice questions more efficiently.	
2	<i>Effort Expectancy</i>	EE1	The CBT application is easy to learn.	(Blut <i>et al.</i> , 2022; Venkatesh, 2022)
		EE2	I did not experience any difficulties using the CBT application.	
		EE3	I feel comfortable using the CBT application.	
		EE4	I feel the CBT application has an interface that is easy to understand.	
3	<i>Social Influence</i>	SI1	The teacher encourages me to use the CBT app.	(Venkatesh, 2022)
		SI2	My friends use and recommend the CBT app.	

		SI3	The school environment supports the use of the CBT app.	
		SI4	I use the CBT app because of the influence of the people around me.	
4	<i>Facilitating Conditions</i>	FC1	I have a device that supports the use of CBT.	(Venkatesh, 2022)
		FC2	The school provides facilities and technical assistance for using the CBT application.	
		FC3	I know how to troubleshoot technical issues when using the CBT application.	
		FC4	I feel that I receive adequate support when encountering difficulties with CBT.	
5	<i>Perceived Usefulness</i>	PU1	The CBT application is very beneficial in my learning process.	(Momani, 2020)
		PU2	The CBT application helps me save study time.	
		PU3	The CBT application improves the effectiveness of learning evaluations.	
		PU4	The CBT application helps me understand the lesson material better.	
6	<i>Intention to Use of CBT Application</i>	IU1	I intend to use the CBT application for the next exam.	(Venkatesh <i>et al.</i> , 2003)
		IU2	I will continue using the CBT application if available.	
		IU3	I want to use the CBT application regularly in my study activities.	
		IU4	I will recommend the CBT application to my friends.	

## 4. Result and Discussion

### 4.1 Results

Collecting respondent data is the first step in data collection. Data were collected thru the distribution of questionnaires both offline and online based on a five-point Likert scale. A total of 136 data points were collected, and 112 of them were valid based on the results of data cleaning and preparation using IBM SPSS Statistics version 26. Next, the researchers collected demographic data from the respondents and divided it into two categories: age and gender.

#### 4.1.1. Characteristics of the respondents

The characteristics of respondents based on gender are divided into 2 categories: male and female. For the male gender, there are 59 individuals or 52.7%, and for the female gender, there are 53 individuals or 47.3%. The characteristics of respondents based on gender are shown in the form of a table resulting from calculations using IBM SPSS Statistics version 26, which can be seen in Table 2.

Table 3. Characteristics of Respondents Based on Gender

		Jenis_Kelamin			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Laki-Laki	59	52.7	52.7	52.7
	Perempuan	53	47.3	47.3	100.0
	Total	112	100.0	100.0	

The characteristics of respondents based on age were grouped into several age categories: the 16-year-old category had 6 people or 5.4%, the 17-year-old category had 38 people or 33.9%, the 18-year-old category had 45 people or 40.2%, the 19-year-old category had 20 people or 17.9%, and the 20-year-old category had 3 people or 2.7%. The characteristics of respondents based on age are shown in the form of a table resulting from calculations using IBM SPSS Statistics version 26, which can be seen in Table 3.

Table 4. Characteristics of Respondents Based on Age

		Usia			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	16	6	5.4	5.4	5.4
	17	38	33.9	33.9	39.3
	18	45	40.2	40.2	79.5
	19	20	17.9	17.9	97.3
	20	3	2.7	2.7	100.0
	Total	112	100.0	100.0	

A validity test is conducted to ensure that the questionnaire used is reliable. If the questions or findings truly reflect the metrics to be measured, the questionnaire is considered valid. To evaluate the validity of the instruments used in this study, the author employed Exploratory Factor Analysis (EFA). Factor Loading, which is the result of the EFA calculation derived from the Rotated Component Matrix, provides information about the strength of the relationship between each question or statement and the concept to be measured. Convergent and discriminant validity tests are two validity tests conducted. The convergent validity test assesses how well the questions or statements are related to each other and how consistent they are. The questionnaire is considered valid and reliable if the Average Variance Extracted (AVE) value is more than 0.5 and the Composite Reliability (CR) value is more than 0.7. However, an AVE value of 0.4 is still acceptable. Table 4 presents the validity test results for the 24 questions in this study, which show a strong correlation between the questionnaire questions used and the measured variables (Dapadeda *et al.*, 2025).

Table 5. Convergence Validity Test

Factors	Symbol	Indicator	Factor Loading	AVE	CR	Status
<i>Performance Expectancy</i>	PE	PE1	0.872	0,698	0,902	Valid
		PE2	0.848			Valid
		PE3	0.816			Valid
		PE4	0.805			Valid
<i>Effort Expectancy</i>	EE	EE1	0.878	0,752	0,924	Valid
		EE2	0.864			Valid
		EE3	0.887			Valid
		EE4	0.839			Valid
<i>Social Influence</i>	SI	SI1	0.831	0,741	0,920	Valid
		SI2	0.906			Valid
		SI3	0.860			Valid
		SI4	0.845			Valid
<i>Facilitating Conditions</i>	FC	FC1	0.728	0,572	0,842	Valid
		FC2	0.778			Valid
		FC3	0.789			Valid
		FC4	0.728			Valid
<i>Perceived Usefulness</i>	PU	PU1	0.862	0,671	0,891	Valid
		PU2	0.804			Valid
		PU3	0.786			Valid
		PU4	0.823			Valid
<i>Intention to Use of CBT Application</i>	IU	IU1	0.710	0,551	0,830	Valid
		IU2	0.730			Valid
		IU3	0.739			Valid
		IU4	0.787			Valid

After the convergent validity test is conducted, the next step is the discriminant validity test. Discriminant validity is a measure of how well a structure can be distinguished from others by assessing its indicators. The value of the Average Variance Extracted (AVE) root and the correlation between other model constructs are compared to evaluate discriminant validity. Discriminant validity is considered valid if the square root of AVE is greater than 0.5. The square root of AVE value (indicated by bold numbers) is greater than the correlation

between the variables (Dapadeda *et al.*, 2025), as shown in Table 5. This indicates that the measurement model meets the requirements for discriminant validity.

Table 6. Correlation Between Variables Based On Average Values

Correlations						
	AvPE	AvEE	AvSI	AvFC	AvPU	AvIU
AvPE	0.835					
AvEE	.208*	0.867				
AvSI	.294**	.130	0.861			
AvFC	.522**	.258**	.549**	0.756		
AvPU	.432**	.160	.318**	.388**	0.819	
AvIU	-.055	.138	.067	.029	-.087	0.742

After completing the validity test, the next stage is the reliability test. Reliability testing is the process of determining the consistency of an instrument. The Cronbach's Alpha method and IBM SPSS Statistics Version 26 program were used to test the reliability of this research. Data is considered reliable if the Cronbach's Alpha value is greater than 0.7 (Dapadeda *et al.*, 2025).

Table 7. Reliability Test Using The Cronbach's Alpha Method

Symbol	Reliability Statistics	Item-Total Statistics				
		Indicator	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PE	Cronbach's Alpha = .917 N of Items = 4	PE1	10.11	3.988	.842	.881
		PE2	10.06	4.221	.826	.886
		PE3	9.75	4.351	.780	.902
		PE4	9.91	4.280	.790	.898
EE	Cronbach's Alpha = .902 N of Items = 4	EE1	10.81	5.433	.794	.870
		EE2	10.98	5.801	.803	.865
		EE3	10.85	5.571	.815	.860
		EE4	10.91	6.641	.728	.894
SI	Cronbach's Alpha = .927 N of Items = 4	SI1	11.21	3.876	.789	.917
		SI2	11.02	3.621	.871	.890
		SI3	10.96	3.548	.851	.898
		SI4	10.96	4.007	.812	.911
FC	Cronbach's Alpha = .863 N of Items = 4	FC1	10.07	3.454	.738	.815
		FC2	10.32	3.463	.641	.856
		FC3	10.28	3.301	.779	.797
		FC4	10.31	3.496	.694	.832
PU	Cronbach's Alpha = .881 N of Items = 4	PU1	10.77	3.099	.770	.836
		PU2	10.62	3.194	.745	.846
		PU3	10.75	3.505	.713	.859
		PU4	10.64	3.259	.745	.846
IU	Cronbach's Alpha = .798 N of Items = 4	IU1	11.04	2.962	.363	.850
		IU2	10.99	2.135	.705	.697
		IU3	11.09	2.244	.679	.712
		IU4	11.04	2.187	.712	.694

The next process in this research is hypothesis testing conducted using the AMOS version 22 application. The Amos model for hypothesis testing can be seen in Figure 4.

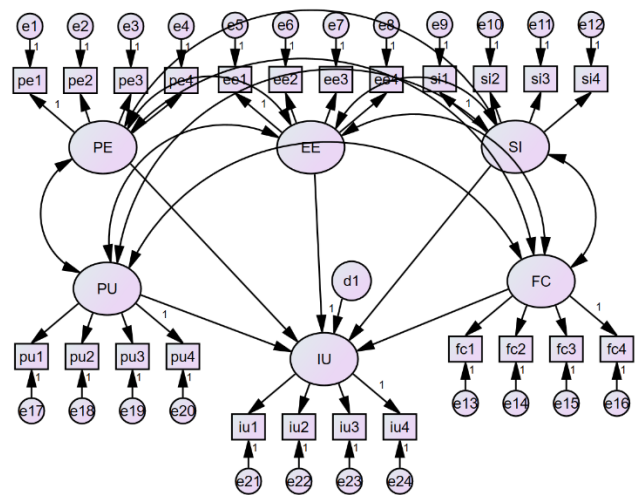


Figure 4. Hypothesis Testing Model

The previously proposed hypothesis was tested to determine its validity. If the critical ratio (CR) value is greater than 1.96 and the P value is significant at 0.05, 0.01, and 0.001, then the hypothesis can be accepted or is significant. Figure 4 shows the SEM analysis results for each direct effect in the theoretical model, which consists of two values, and Table 5 shows the results of the researcher's hypothesis test, as well as the magnitude of the total direct effect on the hypothesis. The first is the unstandardized effect, followed by statistical significance represented by \*, \*\*, \*\*\*, or NS, which have significance levels of 0.05, 0.01, 0.001, or no statistical significance. The second value is the standardized effect, followed by the magnitude represented by S (Small), M (Middle), or L (Large), which means small, medium, or large (Dapadeda *et al.*, 2025; Joseph F. Hair Jr., 2021).

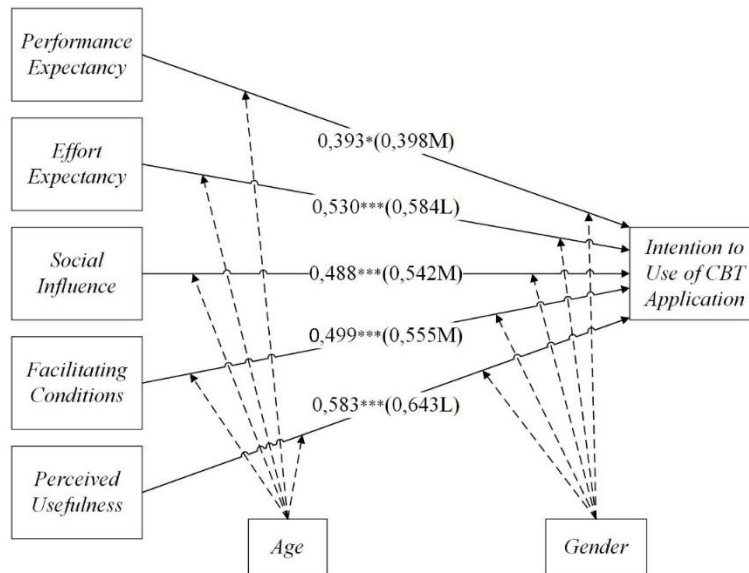


Figure 5. Direct Effect on the Model

\*significant at  $p < 0.05$ , \*\* significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$  (Dapadeda *et al.*, 2025)

Table 8. Hypothesis Test Results

Direct Effect	Estimate	C.R.	P	Total Effect	Status
PE→IU	0,393	2,527	0,398	0,393*(0,398M)	Accepted
EE→IU	0,530	5,146	0,584	0,530***(0,584L)	Accepted
SI→IU	0,488	4,629	0,542	0,488***(0,542M)	Accepted
FC→IU	0,499	4,759	0,555	0,499***(0,555M)	Accepted
PU→IU	0,583	5,633	0,643	0,583***(0,643L)	Accepted

In Table 5 above, the results of the processing of 5 hypotheses are shown, and all 5 hypotheses made were accepted, namely H1, H2, H3, H4, H5 with CR values of 2.527, 5.146, 4.629, 4.759, and 5.633. After

conducting validity and reliability tests, the researcher proceeded to perform model fit criteria tests. Various criteria were used in this study to evaluate the model, including Normed Chi Square, CMIN/df, RMR, GFI, AGFI, NFI, IFI, CFI, and RMSEA. Table 9-13 presents the model fit test results according to the specified criteria.

Table 9. CMIN Analysis Results

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	63	364,166	237	,000	1,537
Saturated model	300	,000	0		
Independence model	24	1689,764	276	,000	6,122

Chi-Square Test (CMIN/DF)  $364,166/237 = 1,537$

\*Indication of Reasonable Fit because its Normed Chi-Square (NC) value is between 1 and 5.

#### Root Mean Square Residual (RMR) dan Goodness of Fit Index (GFI)

Table 10. Results of RMR and GFI Analysis

Model	RMR	GFI	AGFI	PGFI
Default model	,027	,904	,749	,633
Saturated model	,000	1,000		
Independence model	,101	,358	,302	,329

RMR (Root Mean Square Residual) = 0,027

GFI (Goodness of Fit Index) = 0.903

\*Because the RMR approaches 0, it indicates Model Fit.

\*Because the GFI value is greater than 0.9, it means Good Fit.

#### Normed Fit Index (NFI), Incremental Fit Index (IFI) dan Comparative Fit Index (CFI)

Table 11. Results of NFI, IFI, and CFI Analysis

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	,929	,901	,909	,924	,935
Saturated model	1,000		1,000		1,000
Independence model	,000	,000	,000	,000	,000

NFI (Normed Fit Index) = 0.929

IFI (Incremental Fit Index) = 0.909

CFI (Comparative Fit Index) = 0.935

\*Because the value is above 0.9, it falls under Good Model Fit.

#### Root Mean Square Error Approximation (RMSEA)

Table 12. RMSEA Analysis Results

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	,059	,043	,074	,164
Independence model	,223	,213	,233	,000

RMSEA (Root Mean Square Error of Approximation) = 0.059

\*Included in Reasonable Fit because its value is between 0.05 and 0.08

#### Conclusion of the FIT Model

Table 13. Results of the FIT Model Criteria Test

Model	Sampel Size	Normed $\chi^2$ (NC) = $\chi^2/df$	RMR	GFI	NFI	IFI	CFI	RMSEA
Theoretical Model	112	$364,166/237 = 1,537$	0,027	0.903	0.929	0.909	0.935	0.059

R<sup>2</sup>: IU (0,469)

Note:

R<sup>2</sup> is the proportion of variance explained by the influencing variables.

GFI: good fit index. AGFI: adjusted GFI. NFI: normalized fit index. IFI: incremental fit index. CFI: comparative fit index.

RMR: root mean square residual. RMSEA: root mean square error of approximation

The results of the Exploratory Factor Analysis (EFA) above indicate that the Normed Chi Square (NC) value is 1.537, which means it meets the expected value criteria as it is indicated to be a Reasonable Fit with an NC value between 1 and 5. The RMR value is 0.027, which means it meets the expected value criteria and is indicated to be a Good Model Fit because it is close to 0. The GFI value is 0.903, which means it meets the expected value criteria as the GFI value is greater than 0.9, falling within the Good Model Fit criteria. The CFI value is 0.935, the NFI value is 0.929, and the IFI value is 0.909, which means they meet the expected value criteria and fall within the Good Model Fit criteria as their values are greater than 0.9. The RMSEA value is 0.059, which indicates that it meets the expected value criteria and falls within the Reasonable Fit criteria as its value is between 0.05 and 0.08. Overall, it can be seen that this research model shows results with good fit (Good Model Fit).

## 4.2 Discussion

The purpose of this research is to examine what drives the desire of students at SMAS Katolik Sint Pieter Waikabubak to use the Computer Based Test (CBT) program to evaluate their learning. Each independent variable shows a significant positive effect, according to the results of the structural model. This indicates that the perception of usefulness, ease of use, social support, and availability of facilities significantly influence the acceptance of technology in schools. Age and gender as moderating variables strengthen this perception. With a path coefficient of 0.393\*, the Performance Expectancy variable shows a positive and significant influence on the desire of students at SMAS Katolik Sint Pieter Waikabubak to use CBT. This result indicates that students believe that the use of CBT enhances the effectiveness of exams, with a more organized working process and faster evaluation results. According to the students, switching from paper-based exams to digital ones increases academic productivity because this system minimizes technical errors in answer submission. Although this variable has a lower level of significance compared to other variables, this functional utility component remains fundamental for students to accept a more sophisticated and effective learning evaluation system.

With a coefficient of 0.530\*\*\*, Effort Expectation shows a significant influence. This indicates that the ease of use of CBT for students at SMAS Katolik Sint Pieter Waikabubak is very important. If the application interface is easy to understand and does not require excessive mental effort, students are likely to be very interested in using it. This high level of significance indicates that the use of CBT in schools heavily depends on how user-friendly the application is. Students will be more prepared to use this technology as a new standard for evaluating their daily learning and final exams when they know that it will not be an additional burden for their exams. With a coefficient of 0.488\*\*\*, the Social Influence variable has a significant impact on the intention to use. At SMAS Katolik Sint Pieter Waikabubak, the encouragement of teachers, the principal, and peers greatly influences student behavior. The results show that students feel the need to use the CBT application due to the expectations or demands from important figures at school. The existence of school policies that promote the digitalization of education and a supportive social environment encourages students to adopt technology. The more support and positive perception of CBT built by the school community, the more students want to use it regularly.

Students' motivation is significantly influenced by Facilitating Conditions at a rate of 0.499\*\*\*. This shows that SMAS Katolik Sint Pieter Waikabubak has supporting infrastructure, such as computer laboratories, internet networks, and technical assistance from school staff. Students feel more confident using the CBT application when they know their school has adequate facilities and assistance available in case of technical issues. The results of this study indicate that the school's readiness to provide facilities and equipment is not only an operational support but also a determining factor that directly boosts the school's confidence and encourages them to participate in the computer-based evaluation system. With a coefficient of 0.583\*\*\*, the Perceived Usefulness variable has the greatest influence on this model. This shows that the perceived benefits of CBT technology for students at SMAS Katolik Sint Pieter Waikabubak are their main motivation for using it. Students highly appreciate how effective, precise, and transparent CBT is compared to conventional methods. School students are dominated by this variable, which shows that they are very pragmatic. If they see direct benefits from technology that facilitates their learning evaluation, they will be very enthusiastic about using it. Therefore, the success of using CBT greatly depends on how well the system can meet students' expectations regarding its benefits in their daily academic life.

Theoretically, this research helps develop the UTAUT (Unified Theory of Acceptance and Use of Technology) model in high schools in the region. These results support the theory that Perceived Usefulness and Effort Expectancy remain the strongest predictors in predicting the behavioral intention to use technology in a structured academic environment. Additionally, this study shows that moderating variables (age and gender) remain relevant in explaining the variation in usage intentions. This shows that the UTAUT theory can be adapted and is valid in educational institutions with certain socio-cultural characteristics, such as in West Sumba. Practically, the findings of this research provide guidelines for the management of SMAS Katolik Sint Pieter Waikabubak in the implementation of digitalization policies.

- 1) Optimization of Facilities: Because facilitating conditions have a significant impact, the school must ensure that computer units are available and that the internet bandwidth ratio is balanced with the number of students to avoid technical obstacles during exams.
- 2) Improvement of Digital Literacy: Schools should conduct brief training sessions for new students to reduce technological awkwardness that can hinder learning evaluation, as ease of use (Effort Expectancy) is very important.
- 3) Digital Culture: Schools can leverage social influence by providing awards or CBT-based certifications to foster collective pride in using technology, which can motivate other students.

## 5. Conclusion and Recommendations

The analysis confirms that all five variables in the proposed model — Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Perceived Usefulness — exert a positive and statistically significant effect on students' intention to use CBT at SMAS Katolik Sint Pieter Waikabubak. Perceived Usefulness and Effort Expectancy stand out as the strongest predictors, indicating that students are primarily driven by the tangible value the system delivers and the ease with which they can operate it. When students believe that CBT produces faster, fairer, and more accurate results than paper-based exams, and that the system itself does not impose an unnecessary learning burden, their willingness to adopt it increases considerably. Social Influence and Facilitating Conditions also play a meaningful role in shaping adoption behavior. Teacher encouragement, peer endorsement, and school-level digitalization policies create a social environment in which using CBT feels expected rather than optional. At the same time, the availability of computer laboratories, stable internet access, and responsive technical support gives students the confidence to engage with the system during high-stakes assessments. Technology adoption, in this context, is not purely an individual decision — it is the product of an institutional environment that has prepared the conditions for it to work. The moderating roles of age and gender further refine this picture. Older students tend to approach CBT with greater confidence and less reliance on external support, while younger students may require more structured guidance during the transition. Male and female students also differ in how they weigh functional performance against ease of use and social encouragement. These differences suggest that a uniform approach to CBT rollout may not serve all student groups equally, and that targeted support strategies are worth considering. Based on these findings, schools are advised to continue strengthening their technical infrastructure, conducting digital literacy training for new students, and building a school culture in which digital assessment is treated as the standard — not the exception.

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