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ORIGINAL RESEARCH ARTICLE

Analyzing the factors affecting the use behavior of the SIRADI system through behavioral intention as the mediating variable using the UTAUT 2 model

Muhammad Noor Rifqi Hidayat, Lyna Latifah, Tusyanah Tusyanah*

Department of Economics Education, Faculty of Economics and Business, Universitas Negeri Semarang, Semarang 50229, Indonesia

*** Corresponding Author:** Tusyanah Tusyanah, tusyanah@mail.unnes.ac.id

ABSTRACT

This study aimed to examine the effects of the independent variables, i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, and habit, on the dependent variable, SIRADI's use of behavior through behavioral intention as a mediating variable. The population was 350 Department of Economics Education students, and the Slovin formula calculated 187 respondents. Data are collected by distributing questionnaires and analyzed using SEM (Structural Equation Model) with the Smart-PLS 3.3 application. The results showed that the study model used was valid and reliable. Based on the hypothesis test, it was found that of the 13 hypotheses, eight were accepted and five were rejected. Social influence has the most significant effect on behavioral intention at 40.4%. Habit has the most significant effect on SIRADI's use behavior, at 32.7%. Then, behavioral intention as a mediating decreases the effect of habit on SIRADI's user behavior by 13.4%. This study concludes that there is a partial effect of performance expectancy, effort expectancy, social influence, facilitating conditions, and habits on SIRADI's use behavior. This study suggests that the higher education institution needs to review the development of services at SIRADI to fulfill the expectations of its users.

Keywords: use behavior; SIRADI system; the UTAUT 2 model

1. Introduction

In the Industrial Revolution 4.0 era, one technology modern organizations widely use is information systems. Currently, the use of information systems is increasing. Westland and Clark support Venkatesh et al.[1], which state that the use of information systems has increased significantly. This increase is not only due to the demands of modern organizations, but also because more people need information. Information systems will assist organizations in presenting information quickly, accurately, and openly, as users expect.

The COVID-19 pandemic significantly negatively impacted all fields, ranging from the economy, health, and government to education in Indonesia. The government has made all efforts to suppress these negative impacts, starting with applying large-scale social restrictions and social distancing, which make people carry out their routine activities from home.

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With the demands of the era and support from policies implemented during the pandemic, the use of information systems should have increased. However, it differs from one of the information systems at *Universitas Negeri Semarang (UNNES)*, the SIRADI system, which has fewer users.

Figure 1 shows that from 2019 to 2020, there was a decrease in users and activities through SIRADI by students. The decrease in users and activities using SIRADI can be interpreted as a decrease in students' behavior toward using SIRADI information technology.

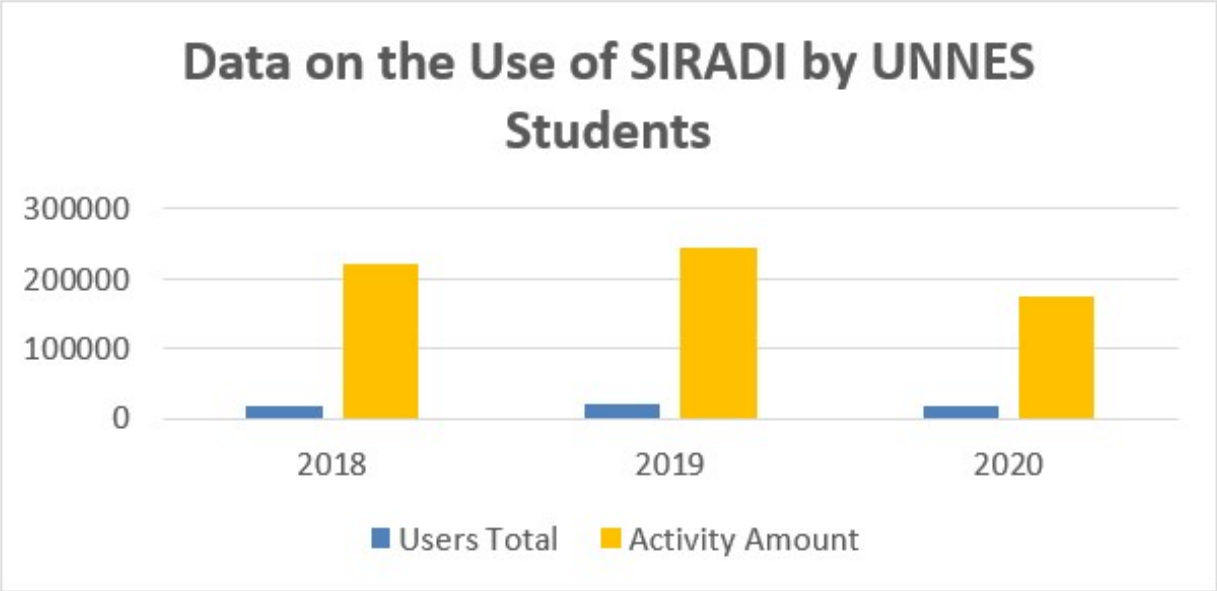

Figure 1. SIRADI's usage.
Source: Data Center at *Universitas Negeri Semarang*, 2021.

The theme of this study is the behavior of users of information systems. According to Bharata and Widyaningrum[2], information technology reflects individual behavior. This behavior can be seen in the individual's intention when using information technology. Wibowo[3] conceptualizes usage behavior regarding the frequency and duration of using information technology.

Based on the initial observations to determine the duration of using the SIRADI system by 2018 Economics Education students, it was found that in less than one year, 63% of 2018 Economics Education students rarely used the SIRADI system. In addition, 26.7% of students rarely used the SIRADI system, and only 10% of students often used the system.

Furthermore, based on the duration, it was found that 30 respondents stated that they used SIRADI to make a permit for observing 26 courses (86.7%), active college 24 (80%), 20 scholarship applications (66.7%), eight student assignments (26.7%), study permits 3 (10%), and missing student identification cards 2 (6.7%). It can be interpreted that students' behavior in using the SIRADI system is only limited to meeting needs and occasionally because the frequency of using SIRADI is only used to make active lecture letters, missing KTM applications, scholarship applications, course observation permits, and student assignments.

Many models are used to analyze the level of technology use, one of which is UTAUT (*Unified Theory of Acceptance and Use of Technology*), developed by Venkatesh et al.[1]. UTAUT is a model used to explain the behavior of using information technology[4]. The UTAUT[1] model has four primary constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Then the model was

developed into the UTAUT 2[5] model with three constructs that can affect user behavior: hedonic motivation, price value, and habit.

Many researchers have studied system usage behavior by applying the UTAUT 2 model. Venkatesh et al.[5] found that performance expectations, effort expectations, social influences, facilitating conditions, hedon motivation, price values, and habits significantly affect behavioral intentions. Facilitating conditions, habits, and intentions significantly affect the behavior of users of the system. Nair et al.[6] also revealed that performance expectations, business expectations, social influences, facility conditions, price values, motivation, and hedonic habits significantly affect students' acceptance and use of ReWIND.

Tusyanah et al.[7] also did a study on the use of e-wallets. They stated that performance expectancy, effort expectancy, social influence, and facilitating conditions positively and significantly affect behavioral intention. Zwain[8] also found that the acceptance of Moodle by lecturers and students was affected by exogenous variables: facilitating conditions, hedonic motivation, and habits. In addition, the more users use Moodle, the more subjects will accept it as part of their daily routine. Learning value is significant to students' behavioral intentions, while that of lecturers is not significant. Technological innovation significantly affects behavioral intentions and is the most contributing construct. Then, Arif et al.[9] show that performance expectations, effort expectations, social influences, facilitating conditions, and usage intentions significantly affect the use of AIOU Web-based services. However, it is the intention to use that has the most significant level of significance. The modifications, such as age, gender, and experience, do not affect the predictors.

Gunasinghe et al.[10] found that performance expectations, business expectations, facility conditions, habits, and hedonic motivation significantly affect the adoption of e-learning. Meanwhile, the effect of social and personal innovation in IT is not significant to the adoption of e-learning. Bashir[11] found that performance expectancy, effort expectancy, and facilitating conditions positively and significantly affect SIORTU use behavior through behavioral intention. Social influence and habit are not significant to behavioral intention, nor does SIORTU use behavioral intention as a mediating variable. Then, Perinotto et al.[12], in their research, showed that price and social influence are the most significant constructs associated with booking a hotel online. In contrast, trust does not influence the use of the Internet.

This study eliminated the constructs of hedonic motivation and price value. The hedonic motivation was eliminated because the subjects in this study were students of Economics Education class 2018 who had used the SIRADI system for three years since they were active in university. It made them feel no more pleasure from using the system. Furthermore, the price value construct is also eliminated because the study object is an information technology facility available without incurring any cost.

The mediating variable in this study is behavioral intention. The selection of behavioral intention as a mediator is based on Hsu[13] study, which uses behavioral intention as a mediator to invite students to be involved in learning using Moodle. Furthermore, Mentayaet et al.[14] also used behavioral intention as a mediating variable. This study found that the UTAUT predictors, namely performance expectancy, effort expectancy, and social influence, did not indirectly affect use behavior through behavioral intention as a mediating variable. Different results were obtained by Nuari et al.[15], showing that performance expectancy, social influence, and facilitating conditions indirectly affect use behavior through behavioral intention. However, effort expectancy does not indirectly affect use behavior through behavioral intention.

The moderating variables, age, gender, and experience from the UTAUT 2[5] model were eliminated. The age was eliminated because the population of this study was students majoring in Economics Education in 2018, and they are homogeneous.

2. Method

This is a quantitative study. The population was 350 students of the 2018 Economics Education Department, and 187 respondents were taken as samples calculated by the Slovin formula with an error rate of 5%.

The exogenous variables in this study are performance expectancy (X1), effort expectancy (X2), social influence (X3), facilitating conditions (X4), and habit (X5). Meanwhile, the endogenous variable in this study is SIRADI's use behavior (Y), and the mediating variable is behavioral intention (M). Data was collected by distributing questionnaires.

The data was analyzed by an inferential statistical analysis using Structural Equation Modeling (SEM) based on Partial Least Square (PLS) with the Smart PLS 3.0 application. SEM-PLS analysis consists of two sub-models: the outer and inner models. The outer model is to test the validity and reliability. Then, the inner model can be tested by looking at the R^2 value and the t-statistical test.

3. Study result and discussion

3.1. Study results

3.1.1. Outer model

Based on **Figure 2**, you can see the validity of each indicator by looking at the outer loading value. This validity indicates that the indicator is valid in being a proxy for variable measurement. It can be seen in **Table 1** to make it easier to understand.

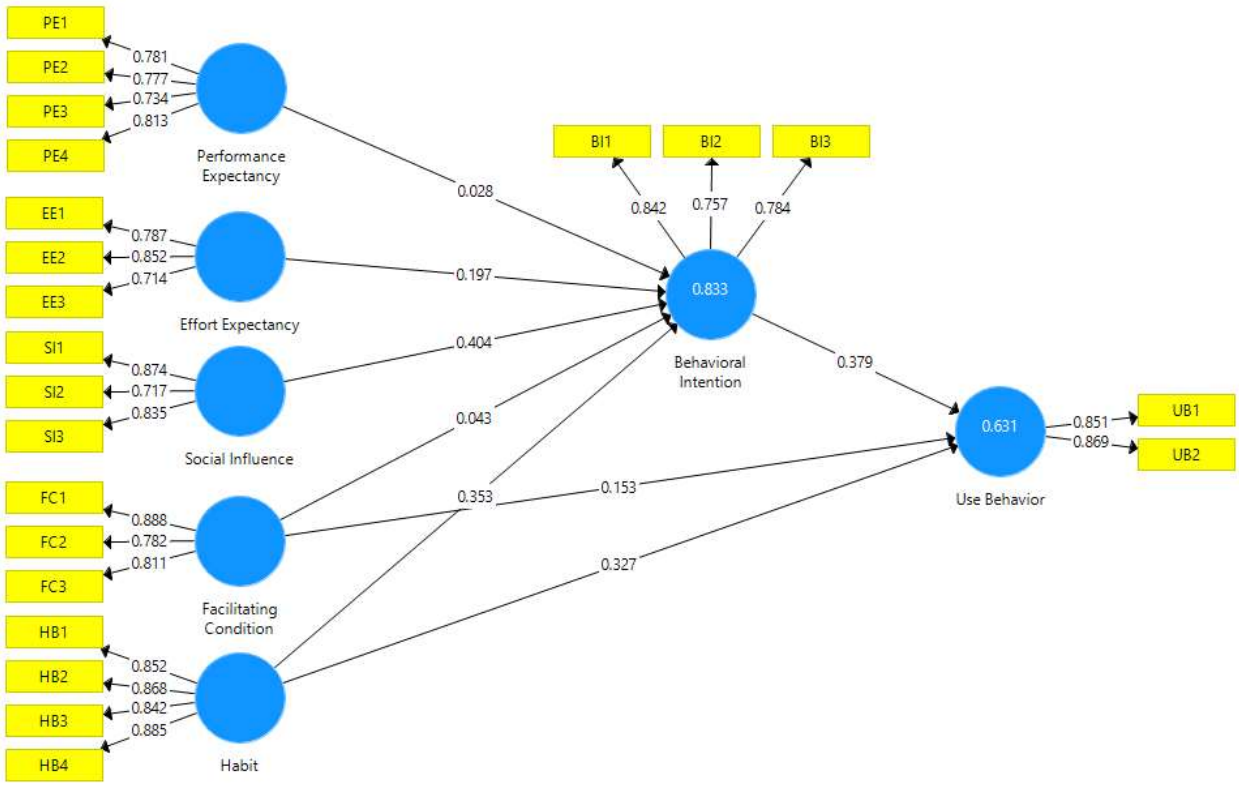

Figure 2. Outer model results.

Source: Primary data processed, 2021.

Table 1. Outer loading results.

Variables	Indicators	Outer loading	Notes
Use Behavior (Y)	UB1	0.851	Valid
	UB2	0.869	Valid
Performance Expectancy (X1)	PE1	0.781	Valid
	PE2	0.777	Valid
	PE3	0.734	Valid
	PE4	0.813	Valid
Effort Expectancy (X2)	EE1	0.787	Valid
	EE2	0.852	Valid
	EE3	0.714	Valid
Social influence (X3)	SI1	0.874	Valid
	SI2	0.717	Valid
	SI3	0.835	Valid
Facilitating Condition (X4)	FC1	0.888	Valid
	FC2	0.782	Valid
	FC3	0.811	Valid
Habit (X5)	HB1	0.852	Valid
	HB2	0.868	Valid
	HB3	0.842	Valid
	HB4	0.885	Valid
Behavioral Intention (M)	BI1	0.842	Valid
	BI2	0.757	Valid
	BI3	0.784	Valid

Source: Primary data processed, 2021.

Table 1 shows that the outer loadings on each SIRADI's use behavior variable, performance expectancy, effort expectancy, social influence, facilitating condition, habit, and behavioral intention have an outer loading value >0.7, which is in the high category.

The rule of thumb used for convergent validity is the outer loading value >0.70 and the AVE (Average Variance Extracted) value >0.5[16]. It shows that the indicators in the study construct are valid or meet the assumptions of Convergent Validity to measure the study variables.

Table 2 shows that each study variable's Average Variance Extracted (AVE) is >0.5. It means that the study variable meets the rule of thumb AVE >0.5, so it is stated that the study variable can become a good study construct[16].

Table 2. Value of average variance extracted (AVE).

Variables	Value of AVE	Notes
Use Behavior (Y)	0.740	Valid
Performance Expectancy	0.603	Valid
Effort Expectancy	0.618	Valid
Social influence	0.659	Valid
Facilitating Condition	0.686	Valid
Habit	0.743	Valid
Behavioral Intention (M)	0.632	Valid

Source: Primary data processed, 2021.

Table 3 shows that the cross-loading of each study variable indicator is >0.7. It means that the indicators in each study construct are valid and meet the requirements of the rule of thumb and assumptions in discriminant validity so that they can be used to measure study variables correctly.

Table 3. Cross-loading results.

Variables	Indicator	Cross loading	Notes
Use Behavior (Y)	UB1	0.851	Valid
	UB2	0.869	Valid
Performance Expectancy (X1)	PE1	0.781	Valid
	PE2	0.777	Valid
	PE3	0.734	Valid
	PE4	0.813	Valid
Effort Expectancy (X2)	EE1	0.787	Valid
	EE2	0.852	Valid
	EE3	0.714	Valid
Social influence (X3)	SI1	0.874	Valid
	SI2	0.717	Valid
	SI3	0.835	Valid
Facilitating Condition (X4)	FC1	0.888	Valid
	FC2	0.782	Valid
	FC3	0.811	Valid
Habit (X5)	HB1	0.852	Valid
	HB2	0.868	Valid
	HB3	0.842	Valid
	HB4	0.885	Valid
Behavioral Intention (M)	BI1	0.842	Valid
	BI2	0.757	Valid
	BI3	0.784	Valid

Source: Primary data processed, 2021.

Table 4 shows that the Cronbach's alpha value of each indicator in the study variable is >0.6. Ghozali[17] states that a construct or variable is reliable if it gives a Cronbach's alpha value >0.6. It can be concluded that each variable is reliable and feasible to be used as a study variable.

Table 4. Results of Cronbach's alpha.

Variables	Cronbach's alpha results	Notes
Use behavior	0.649	Reliable
Performance expectancy	0.781	Reliable
Effort expectancy	0.698	Reliable
Social influence	0.737	Reliable
Facilitating condition	0.773	Reliable
Habit	0.885	Reliable
Behavioral intention	0.708	Reliable

Source: Primary data processed, 2021.

Table 5 shows that the composite reliability value is >0.7. According to Solimun et al.[18], the questionnaire has a good composite reliability if it has a value >0.7. All variables are reliable and have adequate consistency in measuring the composite construct for further analysis.

Table 5. Composite reliability results.

Variables	Composite reliability	Notes
Use behavior	0.851	Reliable
Performance expectancy	0.859	Reliable
Effort expectancy	0.829	Reliable
Social effect	0.852	Reliable
Facilitating condition	0.867	Reliable
Habit	0.920	Reliable
Behavioral intention	0.837	Reliable

Source: Primary data processed, 2021.

3.1.2. Inner model

Figure 3 shows the results of the inner model. It aims to test the relationship between constructs or latent variables consisting of various indicators or observation variables. This inner model helps test hypotheses about the causal relationship between these variables.

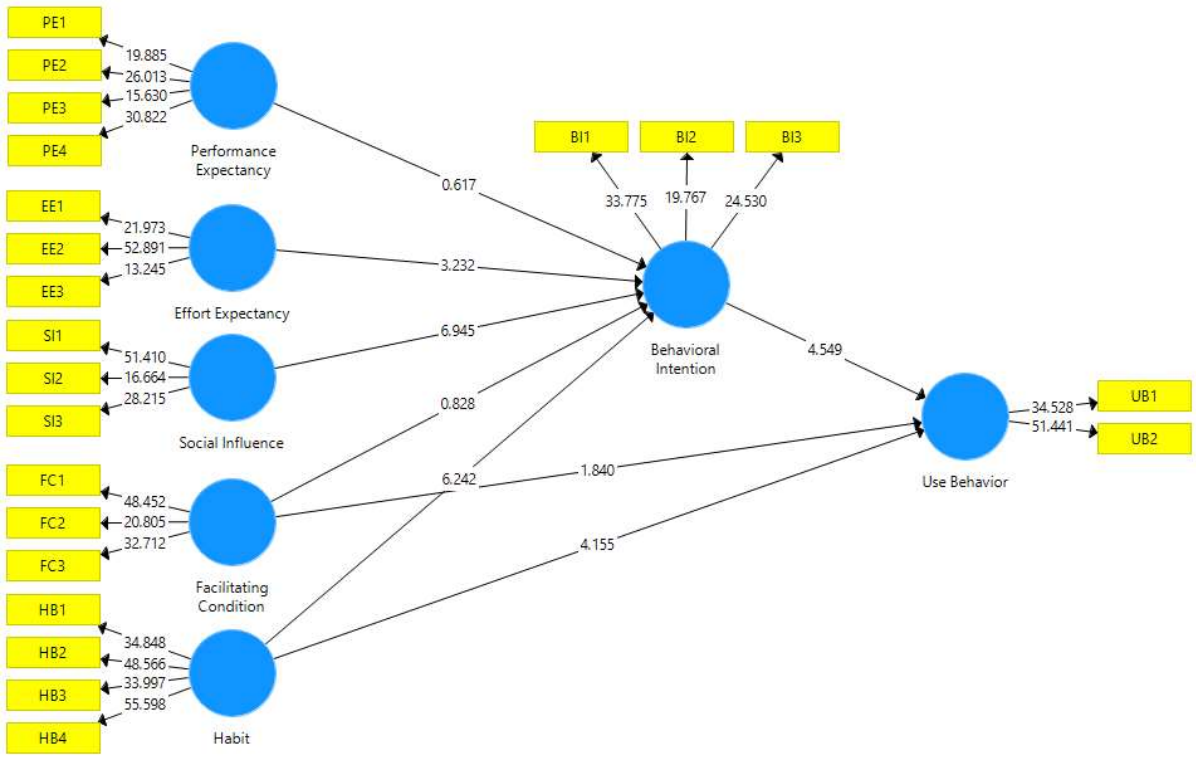

Figure 3. Results of the inner model.

Source: Primary data processed, 2021.

Table 6 shows that the R^2 of SIRADI's use behavior construct is 0.631 (moderate category), and the R^2 of the behavioral intention construct is 0.833 (good category). The value of R^2 is considered moderate because it has a value of >0.33 to <0.67 and is categorized as good if >0.67[19].

Table 6. R^2 test results.

Variables	R-Square	Categories
Use behavior	0.631	Moderate
Behavioral intention	0.833	Good

Source: Primary data processed, 2021.

Table 7 shows the effect of exogenous variables' direct effect on the endogenous variable. The table shows that there are three rejected hypotheses and five accepted hypotheses.

Table 7. Path-coefficient result.

Variables	Original sample	Sample mean	Standard deviation	t-statistics	*p*-values	Hypotheses	Notes
PE ->BI	0.028	0.030	0.045	0.617	0.537	Ha1	Rejected
EE ->BI	0.197	0.196	0.061	3.232	0.001	Ha2	Accepted
SI ->BI	0.404	0.403	0.058	6.945	0.000	Ha3	Accepted
FC ->BI	0.043	0.046	0.052	0.828	0.408	Ha4	Rejected
HB ->BI	0.353	0.353	0.057	6.242	0.000	Ha5	Accepted
FC ->UB	0.153	0.152	0.083	1.840	0.066	Ha6	Rejected
HB ->UB	0.327	0.324	0.079	4.155	0.000	Ha7	Accepted
BI ->UB	0.379	0.384	0.083	4.549	0.000	Ha8	Accepted

Source: Primary data processed, 2021.

Table 8 shows the effect of the exogenous variable on the endogenous variable through the mediating variable. The table shows that there are two rejected hypotheses and three accepted hypotheses.

Table 8. The specific indirect effect.

Variables	Original sample	Sample mean	Standard deviation	t-statistics	*p*-values	Hypotheses	Notes
PE -> BI -> UB	0.011	0.012	0.018	0.572	0.568	Ha9	Rejected
EE -> BI -> UB	0.075	0.074	0.026	2.897	0.004	Ha10	Accepted
SI -> BI -> UB	0.153	0.156	0.046	3.331	0.001	Ha11	Accepted
FC -> BI -> UB	0.016	0.017	0.021	0.794	0.428	Ha12	Rejected
HB -> BI -> UB	0.134	0.135	0.036	3.729	0.000	Ha13	Accepted

Source: Primary data processed, 2021.

3.2. Discussion

3.2.1. The effect of performance expectancy on behavioral intention

The study results show that performance expectancy has a positive but insignificant effect on behavioral intention. It is indicated by the *p*-value 0.537>0.05 with a significance level of 5%. The original sample (estimate) value of 0.028 indicates a 2.8% effect on performance expectancy on the behavioral intention of using SIRADI by students. It means that hypothesis H1 is rejected.

These results are inversely proportional to the UTAUT 2 theory proposed by Venkatesh et al.[5], where the theory confirms that the intention to use an information system is affected by the behavior of someone who believes that using the system will help improve their performance. In the UTAUT 2 theory, it is stated that performance expectancy has a positive and significant effect on behavioral intention.

However, several previous study results found that performance expectancy had a positive but insignificant effect on behavioral intention. Isaias et al.[20] found that performance expectancy had a positive but insignificant effect on behavioral intention, with a coefficient value of 0.172 and a *p*-value of 0.271. Widanengsih[21] also strengthened the study results, which found an original sample value of 0.373 and a *p*-value of 0.202. Similar to the results of this study, although the SIRADI system has provided benefits to students in completing the academic administration process, these benefits have yet to generate the intention of students to use the system continuously.

Based on this explanation, performance expectancy has a positive but insignificant effect on behavioral intention to use SIRADI in students majoring in economic education at UNNES.

3.2.2. The effect of effort expectancy on behavioral intention

The study showed that effort expectancy positively and significantly affected behavioral intention. If a *p*-value of 0.001<0.05 indicates it is significant. The original sample (estimate) value of 0.197 indicates a 19.7% effect of effort expectancy on students' behavioral intention to use the SIRADI system. It means that hypothesis H2 is accepted.

These results align with the UTAUT 2 theory proposed by Venkatesh et al.[5], which states that ease of use affects the intention to use an information system. The UTAUT 2 theory[5] states that effort expectancy has a positive and significant effect on behavioral intention. These results are also supported by the study of Yusof et al.[22], who found that effort expectancy positively and significantly affected behavioral intention to use the RFID system. Then, these results were strengthened by the results of a study by Chao[23], Haris[24], Samsudeen & Mohamed[25], and Fianu et al.[26].

Based on the explanation above, effort expectancy positively and significantly affects behavioral intention to use the SIRADI system in students majoring in economic education at UNNES. It can be interpreted that the higher the effort expectancy of students in using the SIRADI system, the higher the students' behavioral intention (intention) to use the SIRADI system in the future.

3.2.3. The effect of social influence on behavioral intention

The study results show that social influence positively and significantly affects behavioral intention. It is indicated by the *p*-value 0.000 < 0.05 with a significance level of 5%. The original sample (estimate) value of 0.404 indicates a 40.4% social influence on students' behavioral intention to use the SIRADI system. It means that hypothesis H3 is accepted.

These results align with the UTAUT 2 theory proposed by Venkatesh et al.[5], where the theory states that the level of belief affects an individual's intention to use an information system in the people around the individual or she should use the system. In the UTAUT 2 theory, it is stated that social influence has a positive and significant effect on behavioral intention. This result is supported by Isaias et al.[20], who found that social influences positively and significantly affected behavioral intention to use the empathic forums system. Then reinforced by the findings of Arif et al.[9], Samsudeen and Mohamed[25].

Based on the explanation above, it can be concluded that social influence positively and significantly affects behavioral intention to use SIRADI in students of the Department of Economics Education, UNNES. There is a positive and significant effect of the social influence of students on using SIRADI; the higher the behavioral intention (intention) of students to use SIRADI in the future.

3.2.4. The effect of facilitating condition on behavioral intention

The study results show that facilitating conditions have a positive but insignificant effect on behavioral intention. It is indicated by a *p*-value of 0.408 > 0.05 with a significance level of 5%. The original sample

(estimate) value of 0.043 indicates a 4.3% effect of facilitating conditions on the behavioral intention of using the SIRADI system by students. It means that hypothesis H4 is rejected.

These results are inversely proportional to the UTAUT 2 theory proposed by Venkatesh et al.[5], where the theory states that a person's intention to use an information system is affected by the availability of supporting facilities to access the system. In the UTAUT 2 theory, it is stated that facilitating conditions have a positive and significant effect on behavioral intention. However, several studies state that facilitating conditions have a positive but insignificant effect on behavioral intention. It is supported by Tarhini et al.[27], who found that facilitating conditions did not significantly affect behavioral intention. These results are also strengthened by studies from Isaias et al.[20] and Hu et al.[28].

It shows that although the organization has provided good or high-facilitating conditions to support using SIRADI, it does not necessarily affect students' behavioral intentions toward using the system. It is because the use of the SIRADI system by students is only used when needed and only takes place occasionally. Based on the explanation above, facilitating conditions have a positive but not significant effect on behavioral intention to use the SIRADI system in students majoring in economic education at UNNES.

3.2.5. The effect of habit on behavioral intention

The study results show that habit positively and significantly affects behavioral intention. It is indicated by the *p*-value 0.000 < 0.05 with a significance level of 5%. The original sample (estimate) value of 0.353 indicates a 35.3% effect of habit on the behavioral intention of using SIRADI by students. It means that hypothesis H5 is accepted.

These results align with the UTAUT 2 theory proposed by Venkatesh et al.[5], where the theory states that a person's intention to use information systems is affected by the level of a person's tendency or habits to use information systems. In the UTAUT 2 theory, it is stated that habit has a positive and significant effect on behavioral intention. It is also reinforced by the study of Shivdas et al.[29], which found that habit had a positive and significant effect on behavioral intention to use digital libraries with a b value of 0.284, t of 0.284, and *p* < 0.001. These results are also reinforced by Gunasinghe et al.[10] and Sutanto et al.[30].

Based on the explanation above, it can be concluded that student habits during the pandemic, namely using gadgets and accessing social media, affect the behavioral intention to use the SIRADI system in students majoring in economic education at UNNES.

3.2.6. The effect of facilitating condition on SIRADI's use behavior

The study results show that facilitating conditions have a positive but insignificant effect on behavioral intention. It is indicated by a *p*-value of 0.066 > 0.05 with a significance level of 5%. The original sample (estimate) value of 0.153 indicates a 15.3% effect of facilitating conditions on the behavioral intention of students to use the SIRADI system. It means that hypothesis H6 is rejected.

These results are inversely proportional to the UTAUT 2 theory proposed by Venkatesh et al.[5], where the theory states that a person's behavior when using information systems is continuously affected by the infrastructure or supporting facilities available to access the system. This theory found that facilitating conditions positively and significantly affect use behavior. However, several previous studies state that facilitating conditions have a positive but insignificant effect on use behavior. Susafa'ati[31] found that facilitating conditions have an effect but not significantly on use behavior, with a coefficient value of 0.48 and a *p*-value of 0.353 > 0.05. These results are also supported by Hu et al.[28], who found that facilitating conditions did not significantly affect use behavior with an original sample value of 0.094 and a *p*-value of 0.10 > 0.05.

It shows that although facilities are available for students to use the SIRADI system, it does not necessarily increase the intensity of students use of information technology systems.

Based on the explanation above, facilitating conditions have a positive but not significant effect on the use behavior of the SIRADI system for students majoring in economic education at UNNES.

3.2.7. The effect of habit on SIRADI's use behavior

The study results show that habit has a positive and significant effect on the use behavior of the SIRADI system. It is indicated by the *p*-value 0.000 < 0.05 with a significance level of 5%. The original sample (estimate) value of 0.327 shows the effect of 32.7% habit on students' use behavior of SIRADI. It means that hypothesis H7 is accepted. So, the more students' habits in using the SIRADI system in supporting academic and administrative activities, the higher the behavior (use behavior) using the system.

These results align with the UTAUT 2 theory proposed by Venkatesh et al.[5], which states that habits affect a person's continuous behavior in using the system. In the UTAUT 2 theory, it is stated that habit has a positive and significant effect on use behavior. These results are supported by the study of Sutanto et al.[30], which found results which stated that the respondent's habit, necessity, and dependence on using SIPKD to complete work had a positive and significant effect on behavior in using SIPKD with a path coefficient value of 0.158, t-statistics of 2.186, and *p*-value of 0.029. These results are also reinforced by Nair et al.[6], which state that habit has a positive and significant effect on behavioral intention with a t-statistic value of 5.452 > 1.96 and a *p*-value of 0.000 < 0.05.

Based on the explanation above, the habit has a positive and significant effect on the use behavior of the SIRADI system for students majoring in economic education at UNNES.

3.2.8. The effect of behavioral intention on SIRADI's use of behavior

The study showed that behavioral intention positively and significantly affected SIRADI's use behavior. It is indicated by the *p*-value 0.000 < 0.05 with a significance level of 5%. The original sample (estimate) value of 0.379 shows an effect of 37.9% behavioral intention on students' use behavior of the SIRADI system. It means that hypothesis H8 is accepted.

It is in line with the UTAUT 2 theory, which states that behavioral intention is one of the factors that can affect behavior in using technology. According to Venkatesh et al.[1], behavioral intention is a desire that encourages someone to perform a behavior. It is supported by the opinion of Ong & Lai in Leong et al.[32], which states that a person can accept a technology because he has a high intention to perform a behavior even though the person does not have a positive attitude towards its use. This theory found that behavioral intention positively and significantly affects use behavior.

It is supported by a study from Khoirunnisak[33], which found that behavioral intention positively and significantly affected lecturers' use behavior of SHARE-ITS. Then Fianu et al.[26] and Samsudeen[25] also found similar results. It proves that the higher the students' behavioral intention (intention) to use the SIRADI system, the higher the intensity of using the SIRADI system by students in the future.

Based on the explanation above, behavioral intention has a positive and significant effect on the use behavior of the SIRADI system among students majoring in economic education at UNNES.

3.2.9. The effect of performance expectancy on SIRADI's use behavior through behavioral intention

The study results on specific indirect effects show that performance expectancy has a positive but insignificant effect on the use behavior of the SIRADI system through behavioral intention. It is indicated by

the *p*-value 0.568 > 0.05 with a significance level of 5%. The original sample value (estimate) is 0.011, which means a positive effect of 1.1% performance expectancy, but it is not significant on the use behavior of the SIRADI system through behavioral intention. It means that hypothesis H9 is rejected.

These results contradict the theory of UTAUT 2[5], which states that performance expectancy has a positive and significant effect on use behavior through behavioral intention as a mediating variable. However, in this study, performance expectancy can affect but not significantly affect use behavior if the behavioral intention is used as a mediator to affect use behavior. In this case, previous studies also state that performance expectancy has an effect but is insignificant in using behavior through behavioral intention as a mediating variable. Through their study, Mentaya et al.[14] found that performance expectancy has a positive but insignificant indirect effect on use behavior through behavioral intention, mediating with the original sample value of 0.060 and *p*-value of 0.454.

It can be interpreted that although the SIRADI system provides benefits or advantages for students in the management of correspondence administration, their intention to use the system is still the same. This is because the system is only used when needed. We can understand that students' behavioral intention in using the SIRADI system based on something other than the original intention or the intention to use it continuously will not lead to user behavior. It has no effect on performance expectancy or use behavior through behavioral intention as a mediating.

Based on the explanation above, performance expectancy has a positive but insignificant effect on use behavior through the behavioral intention of the SIRADI system in students majoring in economic education at UNNES.

3.2.10. The effect of effort expectancy on SIRADI's use behavior through behavioral intention

The study results on specific indirect effects show that effort expectancy has a positive and significant effect on the use behavior of the SIRADI system through behavioral intention. A *p*-value of 0.00 < 0.05 indicates a significance level of 5%. The original sample value (estimate) is 0.075, which means that effort expectancy has a positive and significant effect on the use behavior of the SIRADI system through behavioral intention. It means that hypothesis H10 is accepted.

It shows that the ease of the SIRADI system quickly affects students' intention to use it. In other words, the operational convenience provided by the system will increase the intention to use the system. With this intention, it will increase the frequency of behavior using the SIRADI system. It causes the effect of effort expectancy on use behavior through behavioral intention.

These results align with the UTAUT 2 theory, which states that effort expectancy can affect use behavior through behavioral intention to use technology[5]. This statement is also supported by a study from Bashir[11], which found that effort expectancy affects SIORTU behavioral intention through SBI (SIORTU behavioral intention).

3.2.11. The effect of social influence on SIRADI's use behavior through behavioral intention

The study results on specific indirect effects show that social influence positively and significantly affects the SIRADI system use behavior through behavioral intention with a *p*-value of 0.001 < 0.05. The original sample value (estimate) is 0.153, which means there is a positive effect from social influence of 15.3% and is significant on SIRADI system use behavior through behavioral intention. It means that hypothesis H11 is accepted.

It shows that the effect of significant people around students will affect the intention of these students to use SIRADI. In other words, the effect of significant people around students will increase the intention to use

the system. From this intention, it will increase the frequency of behavior using the SIRADI system. It is what causes social influences on use behavior through behavioral intention.

These results align with the UTAUT 2 theory[5], which states that social influence positively and significantly affects the use of behavior through behavioral intention as a mediating. The study supports this statement with results from Nuari et al.[15], which found that social influence had a positive and significant effect on use behavior through behavioral intention mediating. In addition, Rahmaningtyas et al.[34] and Mustaqim et al.[35] also found that social influence affects use behavior through behavioral intention.

3.2.12. The effect of facilitating condition on use behavior of SIRADI through behavioral intention

The study results show that facilitating conditions have a positive but insignificant effect on the use behavior of the SIRADI system through behavioral intention. It is indicated by a *p*-value of 0.428 > 0.05 with a significance level of 5%. The original sample value (estimate) is 0.016, which means there is a positive effect from the facilitating condition of 1.6%. However, it is not significant in the use behavior of the SIRADI system through behavioral intention. It means that the H12 hypothesis is rejected.

These results are compared with the theory of UTAUT 2[5], which states that facilitating conditions positively and significantly affects the use of behavior through behavioral intention as a mediating. However, several previous studies have also found different results. The study conducted by Ardiyanto[36] found that behavioral intention could not mediate the effect of facilitating conditions on respondents' use behavior to use the i-P2P system.

Although good facilities are available for students to access the SIRADI system, the intention to use it is still the same. It is because the SIRADI system is only used when needed and is based on something other than the intention to use it continuously. It causes the absence of a significant effect between facilitating conditions and use behavior through behavioral intention.

3.2.13. The effect of habit on SIRADI's use of behavior through behavioral intention

The study results on specific indirect effects show that habit has a positive and significant effect on the use behavior of the SIRADI system through behavioral intention. It is indicated by the *p*-value 0.000<0.05. The value of the original sample (estimate) is 0.134, which means that the habit has a positive effect of 13.4% and is significant on the use behavior of the SIRADI system through behavioral intention. It means that hypothesis 13 is accepted.

These results align with the UTAUT 2 theory, which states that habit affects the use of behavior positively and significantly through behavioral intention as a mediating. It is supported by Gunasinghe et al.[10], who found that habit had a positive and significant effect on use behavior through behavioral intention as a mediating variable. It shows that the habit of students during the pandemic, which demands the use of information systems, increases their intention to use the SIRADI system. Then, with good intentions, they will increase the intensity of their behavior to use the system continuously.

4. Conclusion

Based on the results of the study and discussion, it can be concluded that the study analyzed 13 hypotheses proposed; there are five rejected hypotheses: H1, H4, H6, H9, and H12; and eight hypotheses were accepted: H2, H3, H5, H7, H8, H10, H11, and H13. The effects of the exogenous variables on behavioral intention are: performance expectancy has a positive but insignificant effect on behavioral intention; effort expectancy has a positive and significant effect on behavioral intention; social influence has a positive and significant effect on behavioral intention; facilitating conditions have a positive but insignificant effect on behavioral intention;

and the habit has a positive and significant effect on students' behavioral intention of using the SIRADI. Then, the effects of exogenous variables on SIRADI's use behavior are: facilitating conditions have a positive but insignificant effect on the use behavior; the habit has a positive and significant effect on the use behavior; and the behavioral intention has a positive and significant effect on the use behavior of the SIRADI system. Then, for the effects through the mediating variable, performance expectancy has a positive but insignificant effect on SIRADI's use behavior through behavioral intention, effort expectancy has a positive and significant effect on SIRADI's use behavior through behavioral intention, social influence has a positive and significant effect on SIRADI's use behavior through behavioral intention, facilitating condition has a positive but insignificant effect on SIRADI's use behavior through behavioral intention, and habit has a positive and significant effect on SIRADI's use behavior through behavioral intention as a mediating variable.

Author contributions

Conceptualization, MNRH and LL; methodology, MNRH; software, TT; validation, MNRH and TT; formal analysis, MNRH and TT; investigation, MNRH; resources, LL; data curation, MNRH, LL; writing—original draft preparation, TT; writing—review and editing, TT; visualization, MNRH; supervision, LL; project administration, MNRH; funding acquisition, LL. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

References

1. Venkatesh V, Morris MG, Davis GB, Davis FD. User acceptance of information technology: Toward a unified view. *MIS Quarterly* 2003; 27(3): 425–478. doi: 10.2307/30036540
2. Bharata W, Widyaningrum PW. Analysis of acceptance and use of academic information systems through the development of a study link model for students at the faculty of economics, Muhammadiyah University of Ponorogo (Indonesian). *Optimal: Jurnal Ekonomi Dan Kewirausahaan* 2017; 11(2): 171–187. doi: 10.33558/optimal.v11i2.751
3. Wibowo A. Study of information system user behavior using the technology acceptance model (TAM) approach (Indonesian). Available: https://www.researchgate.net/publication/228997997 (accessed on 4 September 2023).
4. Handayani T, Sudiana S. Analysis of the application of the UTAUT model (Unified Theory of Acceptance and Use of Technology) on information system user behavior (case study: academic information system at Sttnas Yogyakarta) (Indonesian). *Angkasa: Jurnal Ilmiah Bidang Teknologi* 2015; 7(2): 159–165. doi: 10.28989/angkasa.v7i2.159
5. Venkatesh V, Thong JYL, Xu X. Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly* 2012; 36(1): 157–178. doi: 10.1109/MWSYM.2015.7167037
6. Nair PK, Ali F, Leong LC. Factors affecting acceptance & use of ReWIND: Validating the extended unified theory of acceptance and use of technology. *Interactive Technology and Smart Education* 2015; 12(3): 183–201. doi: 10.1108/ITSE-02-2015-0001
7. Tusyanah T, Wahyudin A, Khafid M. Analyzing factors affecting the behavioral intention to use e-wallet with the UTAUT model with experience as moderating variable. *Journal of Economic Education* 2021; 10(1): 113–123. doi: 10.15294/JEEC.V9I2.44824
8. Zwain AAA. Technological innovativeness and information quality as neoteric predictors of users' acceptance of learning management system: An expansion of UTAUT 2. *Interactive Technology and Smart Education* 2019; 16(3): 239–254. doi: 10.1108/ITSE-09-2018-0065
9. Arif M, Ameen K, Rafiq M. Factors affecting student use of Web-based services: Application of UTAUT in the Pakistani context. *Electronic Library* 2018; 36(3): 518–534. doi: 10.1108/EL-06-2016-0129
10. Gunasinghe A, Hamid JA, Khatibi A, Azam SMF. The adequacy of UTAUT-3 in interpreting academician's adoption of e-Learning in higher education environments. *Interactive Technology and Smart Education* 2020; 17(1): 86–106. doi: 10.1108/ITSE-05-2019-0020
11. Bashir NAA. Application of the UTAUT 2 model to determine the factors that influence the use of SIORTU

(Indonesian). *Elinvo (Electronics, Informatics, and Vocational Education)* 2020; 5(1): 42–51. doi: 10.21831/elinvo.v5i1.30636
12. Perinotto ARC, Araújo SM, Borges VPC, et al. The development of the hospitality sector facing the digital challenge. *Behavioral Sciences* 2022; 12(6): 192. doi: 10.3390/bs12060192
13. Hsu H. The acceptance of moodle: An empirical study based on UTAUT. *Creative Education* 2012; 3(8): 44–46. doi: 10.4236/ce.2012.38b010
14. Banjuradja AM, Sunarto MJD, Wulandari SHE. Faktor-faktor yang berpengaruh terhadap penerimaan aplikasi brilian dengan model UTAUT. *JSIKA* 2015; 4(2): 1–10.
15. Nuari ES, Nurkhin A, Kardoyo K. Analysis of determinants of edmodo utilization using the unified theory of acceptance and use of technology (UTAUT) (Indonesian). *Jurnal Pendidikan Akuntansi Indonesia* 2019; 17(1): 57–73. doi: 10.21831/jpai.v17i1.26337
16. Abdilla W, Hartono J. *Partial Least Square (PLS) : Alternatif Structural Equation Modeling (SEM) Dalam Penelitian Bisnis*, 1st ed. Yogyakarta: Andi Offset; 2015.
17. Ghozali I. *Multivariate Analysis Application with SPSS Program* (Indonesian). Badan Penerbit Universitas Diponegoro; 2011.
18. Solimun I, Fernandes AAR, Nurjannah. *Multivariate Statistical Method Structural Equation Modeling (SEM) WarpPLS Approach* (Indonesian). Universitas Brawijaya Press; 2017.
19. Ghozali I. *Multivariate Analysis Application with the IBM SPSS 21 Update PLS Regression Program* (Indonesian). Badan Penerbit Universitas Diponegoro; 2013.
20. Isaias P, Reis F, Coutinho C, Lencastre JA. Empathic technologies for distance/mobile learning: An empirical study based on the unified theory of acceptance and use of technology (UTAUT). *Interactive Technology and Smart Education* 2017; 14(2): 159–180. doi: 10.1108/ITSE-02-2017-0014
21. Widanengsih E. Application of the unified theory of acceptance and use of technology model to measure user behavior of accounting applications in small and mediating enterprises (Indonesian). *Journal of Industrial Engineering & Management* 2021; 2(3): 146–160. doi: 10.7777/jiemar.v2i3.155
22. Raja Yusof RJ, Qazi A, Inayat I. Student real-time visualization system in classroom using RFID based on UTAUT model. *IJILT* 2017; 34(3):274–288. doi: 10.1108/ijilt-03-2017-0018
23. Chao CM. Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in Psychology* 2019; 10. doi: 10.3389/fpsyg.2019.01652
24. Haris CA, WA BS, Nasiri A. Application of the UTAUT 2 model to evaluate the teacher room application (Indonesian). *Jurnal Teknologi Informasi* 2019; 3(2): 192. doi: 10.36294/jurti.v3i2.1085
25. Samsudeen SN, Mohamed R. University students' intention to use e-learning systems. *Interactive Technology and Smart Education* 2019; 16(3): 219–238. doi: 10.1108/itse-11-2018-0092
26. Fianu E, Blewett C, Ampong GO. Toward the development of a model of student usage of MOOCs. *Education and Training* 2020; 62(5): 521–541. doi: 10.1108/ET-11-2019-0262
27. Tarhini A, Masa'deh R, Al-busaidi KA, et al. Factors influencing students' adoption of e-learning: A structural equation modeling approach. *Journal of International Education in Business* 2017; 10(2): 164–182. doi: 10.1108/JIEB-09-2016-0032
28. Hu S, Laxman K, Lee K. Exploring factors affecting academics' adoption of emerging mobile technologies—An extended UTAUT perspective. *Education and Information Technologies* 2020; 25: 4615–4635. doi: 10.1007/s10639-020-10171-x
29. Shivdas A, Menon DG, Nair CS. Antecedents of acceptance and use of a digital library system. *The Electronic Library* 2020; 38(1): 170-185. doi: 10.1108/el-03-2019-0074
30. Sutanto S, Ghozali I, Handayani RS. Factors that influence the acceptance and use of regional financial management information systems (Sipkd) in the perspective of the unified theory of acceptance and use of technology 2 (UTAUT 2) in semarang regency (Indonesian). *Jurnal Akuntansi Dan Auditing* 2018; 15(1): 37–68. doi: 10.14710/jaa.15.1.37–68
31. Susafa'ati. Measuring satisfaction with using the LSD AIR FREIGHT application with UTAUT method (Indonesian). *J. Pilar Nusa Mandiri* 2015; XI(2): 142–151.
32. Leong GW, Ping TA, Muthuveloo R. Antecedents of behavioural intention to adopt internet of things in the context of smart city in Malaysia. *Global Business & Management Research* 2017; 9(4): 442–456.
33. Khoirunnisak W. The implementation of unified theory of acceptance and user of technology (UTAUT) acceptance model to analysis the factors acceptance of lecturers to use share-its of e-learning. Institut Teknologi Sepuluh Nopember Surabaya; 2016.
34. Rahmaningtyas W, Mulyono KB, Fidhyallah NF, Faslah R. Application of UTAUT (Unified Theory of Acceptance and Use of Technology) to understand the acceptance and use of the E-Learning System. *International Journal of Advanced Science and Technology* 2020; 29(4): 5051–5060.
35. Mustaqim RN, Kusyanti A, Aryadita H. Analysis of factors that influence intention to use XYZ e-commerce using the UTAUT model (Unified Theory Acceptance and Use of Technology) (Indonesian). *Jurnal Pengembangan*

Teknologi Informasi Dan Ilmu Komputer 2018; 2(7): 2584–2593.
36. Ardiyanto F. Pengaruh performance expectancy, effort expectancy, social influence dan facilitating conditions terhadap use behavior melalui behavioral intention (Studi Kasus Implementasi Integrated Procure to Pay (I-P2P) di Pt Pertamina Ep Asset 4). Universitas Airlangga; 2020.