

## THE EFFECT OF CONVENIENCE AND EFFICIENCY ON THE USE OF MOBILE BANKING FOR UKT PAYMENTS

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### ABSTRACT

With the advent of mobile banking services, technological advancements have had a significant impact on the banking industry. Bill payments, fund transfers, and purchasing goods and services are just a few examples of the many financial operations that can be accelerated and simplified using mobile banking. The main objective of this study is to determine how much impact mobile banking has on the ease of students at the University of Muhammadiyah Surakarta (UMS) in making payments. Quantitative research using stratified random sampling procedures was conducted on 308 students from the Faculty of Teacher Training and Education (FKIP) UMS. This study found that the adoption of mobile banking is positively and significantly influenced by efficiency and convenience. Mobile banking is popular among students because of its ease of use, with features such as an easy-to-understand UI and simple navigation. Mobile banking is becoming increasingly popular because of its many benefits, including lower transaction costs and faster processing times. Convenience and efficiency are two major factors that students consider when deciding to use mobile banking for their financial activities, according to this study. The calculated F value is 211.473 with a significance level of 0.000, according to the results of the F test. This means that these two independent factors simultaneously significantly influence the use of mobile banking. To answer the needs of customers, especially students, this study highlights the importance of innovation in the development of technology-based financial services.

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### INTRODUCTIONS

Technology is the study and practice of making and using devices and systems to answer practical problems faced by society on a daily basis. Technological advances have had a wide impact on many parts of society, including

the banking industry. By utilizing new technology, banks are able to provide better services and goods to customers than their competitors. (Disasters & Sihotang, 2021)

Mobile banking is an example of the use of technology in the economic sector. With mobile banking, customers can access their accounts whenever and wherever they like, as long as they have an internet connection. Therefore, transactions are no longer limited by the time and location restrictions inherent in conventional banking. Customers no longer need to visit physical bank branches to complete various transactions thanks to mobile banking. Things like investing, paying bills, buying things, and moving money all fall into this category. Time and effort are saved by banks and their customers thanks to this faster and more efficient automated process. The transaction fees associated with mobile banking are typically lower than those associated with traditional banking methods such as visiting branches or using ATMs. Customers and banks alike will reap the benefits of this as it simplifies banking operations and cuts administrative costs. (Antonov et al., 2022)

As part of their digital transformation, financial institutions are doing more than just providing their services online and through mobile devices. When interacting with clients, the banking industry must innovate by using digital technology. It is imperative that this newly invented technology facilitates simpler and more convenient access to financial services for consumers. (Mutiasari, 2020)

However, there is a research gap that has not been explored in depth, especially related to the influence of the ease and efficiency of mobile banking on the use of this service in the context of higher education payments, such as Single Tuition (UKT). Many previous studies have emphasized technical, security, and user satisfaction aspects in the context of banking customers in general or corporates (Esmaeili et al., 2021; Al-Saedi et al., 2020). Meanwhile, studies that specifically examine the use of mobile banking by students, especially in relation to UKT payments at private universities such as the University of Muhammadiyah Surakarta are still very limited.

It was only with the advent of mobile banking services in 1998 that the use of non-cash payment instruments really increased. Two types of electronic money that run on servers and can be accessed through smartphone applications and that use chips as a security mechanism were introduced in 2007. This type of alternative digital currency is analogous to several forms of plastic such as credit cards, ATM cards, and others that do not involve non-cash exchange.

People will feel unsafe carrying large amounts of cash if they have to pay with the money. Therefore, on 14 August 2014, Bank Indonesia launched the National Non-Cash Movement (GNNT) to encourage the use of non-cash payments. (Mayasari et al., 2022)

The purpose of this study is to examine the impact of mobile banking on the ease of student payments at the University of Muhammadiyah Surakarta and draw conclusions about the implications of the findings.

## RESEARCH METHOD

This research is included in the category of quantitative research. Research that relies on numerical measurements is known as quantitative research. Quantitative research also uses special formulas that are tailored to the problem at hand.

The two main types of data used in this study are population and sample data, as mentioned in the methods section above.

All active students registered at the Faculty of Teacher Training and Education, University of Muhammadiyah Surakarta Class of 2021 are the population of this study. There are 1,328 known mobile banking users among students of the Faculty of Teacher Training and Education, which will then be the population used.

The Class of 2021 students from the Faculty of Teacher Training and Education were selected using the stratified random sampling method. To get a good share of the population, this study used stratified random sampling. Each eligible student will have an equal opportunity to be selected as a sample if they meet the population criteria.

And ensure that every group in the population, which in this case is students of the University of Muhammadiyah Surakarta (UMS) from various Study Programs, is proportionally represented. The sample size was determined using the Slovin formula, with a population of 1328 students using Mobile Banking and a margin of error of 5%. The calculation resulted in a sample size of 308 respondents. This number is then divided among each strata (Study Program) proportionally based on the number of students using Mobile Banking in each Study Program.

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

Information:

n = sample size

N = population size

e = margin of error (e.g. 5% or 0.05)

## RESULT AND DISCUSSION

### Result

#### *Respondent Characteristics*

Respondents are 95.5% of the 308 active students of the class of 2021 at the Faculty of Teacher Training and Education (FKIP) of the University of Muhammadiyah Surakarta (UMS). Based on gender, the majority of respondents were male (54.9%), with the rest being female (45.1%). Respondents came from various study programs at FKIP, with the following details: Accounting Education (11.3%), Civics Education (3.9%), Indonesian Language and Literature Education (10.8%), English Education (13.6%), Mathematics (8.4%), Biology (8.4%), Geography (2.6%), Elementary School Teacher Education (15.7%), Early Childhood Education (3.1%), Informatics Engineering Education (5%), Sports Education (11%), and Teacher Professional Education (6%). Most of the respondents (95.5%) are active users of mobile banking.

#### *Description of Research Variables*

1. A score of 1 indicates "Strongly Disagree" and a score of 5 indicates "Strongly Agree" on the 5-point Likert scale, which is used to measure the Ease variable. The standard deviation of the Ease score is 4.11, and the average is 25.07. This means that mobile banking is generally considered user-friendly by respondents.
2. A score of 1 indicates "Strongly Disagree", while a score of 5 indicates "Strongly Agree", on a 5-point Likert scale, which is used to measure the Efficiency variable. Efficiency scores range from 25.25 on average to 4.1 at standard deviation. This shows that overall the public thinks that mobile banking is a good way to pay UKT.
3. The frequency of respondents making UKT payments through mobile banking in the last semester was used to measure the variable of Mobile Banking Usage. For example, the standard deviation is 3.48 and the average frequency is 25.81. This means that the majority of respondents pay UKT twice in a semester using mobile banking.

**Table 1, Descriptive Statistics of Ease Variables**

No	Convenience Questions	STS	TS	KS	S	SS
1	I feel comfortable using mobile banking to make UKT payments	5	10	57	97	212
2	Mobile banking allows me to ensure that UKT payments are made on time	3	17	46	187	128
3	The features in mobile banking are easy to understand	4	13	34	159	171

4	I can make UKT payments at any time through mobile banking without any operational time limits.	4	12	69	143	153
5	I feel that my ability to use the UKT payment feature on mobile banking has improved with my experience	2	11	69	162	137
6	It didn't take me long to learn how to pay UKT through mobile banking	5	12	47	173	144

Researchers at the University of Muhammadiyah Surakarta found that most of the active students at the Faculty of Teacher Training and Education (FKIP) have a good impression of the ease of using mobile banking to pay for UKT. This conclusion is based on the processing of descriptive statistical data. This is evidenced by the large number of "Agree" (S) and "Strongly Agree" (SS) answers to all questions. Of the total number of students surveyed, as many as 212 (51.5%) stated that they were confident in using mobile banking for UKT payments. In addition, as many as 187 (45.4%) students stated that this service is useful for maintaining the punctuality of payments. The ease of understanding the mobile banking feature also received a positive response, with 171 students (41.5%) voting "Strongly Agree." In addition, 153 students (37.1%) admitted that they can make payments at any time without a limitation on operational hours. The experience of using mobile banking also contributed to improving students' ability to make transactions, with 162 students (39.2%) agreeing with the statement. Furthermore, as many as 173 students (41.9%) felt that it did not take them long to learn how to pay UKT through mobile banking. These findings show that mobile banking has become an effective and easy-to-use solution in supporting UKT payment transactions for FKIP students of the University of Muhammadiyah Surakarta.

**Table 2, Descriptive Statistics of Efficiency Variables**

No	Efficiency Questions	STS	TS	KS	S	SS
1	Mobile banking allows me to complete UKT payments more efficiently	3	13	53	154	158
2	By using mobile banking, you can complete UKT payments without interfering with other activities	2	12	45	138	184
3	UKT payment transactions through mobile banking are very effective in terms of time and cost	3	14	49	171	144
4	The transaction report feature in mobile banking helps me easily monitor my UKT payment history	2	12	61	145	161
5	Mobile banking allows me to pay UKT at any time according to my needs	3	11	34	182	151
6	The merger of various services in mobile banking makes UKT payments more practical	3	13	43	162	160

Based on the results of the descriptive statistical data processing of the efficiency variable of the use of mobile banking for the payment of Single Tuition (UKT) by active students of the Faculty of Teacher Training and Education (FKIP) of the University of Muhammadiyah Surakarta, the majority of respondents gave a positive assessment of the efficiency offered by this service. This can be seen from the number of respondents who gave "Agree" (S) and "Strongly Agree" (Ss) answers to each question mark. A total of 158 students (38.4%) stated that mobile banking allows them to complete UKT payments more efficiently, while 184 students (44.7%) confirmed that the use of mobile banking does not interfere with other activities. In addition, the effectiveness of transactions in terms of time and cost was also recognized by 171 students (41.6%) who agreed with the statement. The transaction report feature that makes it easy to monitor payment history also received a positive response, with 161 students (39.2%) voting "Strongly Agree." The ease of making payments at any time according to needs was acknowledged by 182 students (44.3%), while 162 students (39.4%) stated that the combination of various services in mobile banking makes UKT payments

more practical. Overall, these results show that mobile banking provides high efficiency in the UKT payment process, supporting students in managing transactions more easily, quickly, and without significant obstacles.

**Table 3, Descriptive Variables of Mobile Banking Use**

No	Mobile Banking Usage Questions	STS	TS	KS	S	SS
1	Mobile banking always works fine when I make UKT payments	2	12	51	120	196
2	Mobile banking provides transaction notifications quickly after UKT payment is made	2	6	37	164	172
3	I feel that my personal and financial information is safe when making UKT payments via mobile banking	2	6	44	162	167
4	Mobile banking allows me to make UKT payments conveniently from anywhere	3	4	47	156	171
5	The time it takes to make UKT payments through mobile banking is very short	3	5	26	169	178
6	I find the UKT payment feature in mobile banking easy to use even for new users	1	6	35	178	161

Data on the use of mobile banking by active students for the payment of Single Tuition Fees (UKT) at the Faculty of Teacher Training and Education (FKIP) of the University of Muhammadiyah Surakarta was obtained from descriptive statistics, the majority of respondents gave a positive assessment of their experience in using this service. This is reflected in the dominance of "Agree" (S) and "Strongly Agree" (SS) answers on each question indicator. A total of 196 students (47.1%) stated that mobile banking always works well when used for UKT payments, and 172 students (41.3%) confirmed that transaction notifications are received quickly after payment is made. The security of personal and financial information during transactions is also a highly trusted aspect, with 167 students (40.1%) stating "Strongly Agree." In addition, the ease of access from anywhere is one of the main advantages of mobile banking, as acknowledged by 171 students (41.1%). Time efficiency in the payment process was also appreciated, with 178 students (42.8%) stating that the time required was very short. The ease of use of the UKT payment feature, even for new users, also received a positive response, with 178 students (42.7%) stating "Agree." Overall, these results show that mobile banking has become a reliable, efficient, safe, and easy-to-use UKT payment method for FKIP students of the University of Muhammadiyah Surakarta.

### Validity and Reliability Testing

#### *Convergent Validity Test*

How well a construct measures all its indicators is called convergent validity. One way to test the validity of the convergence is to look at the AVE, or Average Variance Extracted. When AVE is greater than 0.5, the construct can explain more than 50% of the variation in its indicator, as stated by . With an AVE of 0.571, Mobile Banking Usage (Y), Efficiency (X2), and Convenience (X1) are all well represented. Each construct has a high degree of convergent validity, as all of these AVE values are more than the 0.5 limit. ( Ketchen , 2013)

#### *Discriminating Validity Test*

The purpose of discriminant validity testing is to determine how different a construct is from another construct in order to capture different phenomena. According to researchers, they often use various discriminant validity tests, including the Fornell-Larcker criterion, cross loading, and heterotrait monotrait ratio (HTMT).(Ketchen, 2013)

When thinking about the validity of discrimination, the Fornell-Larcker criterion must first be examined. If the square root of AVE is higher than the highest relationship value with another construct shown in the table, then the test will be considered passed.

**Table 4, Fornell-Larcker Criterion**

	<b>Facilities (X1)</b>	<b>Efficiency (X2)</b>	<b>Use of Mobile Banking (Y)</b>
<b>Facilities (X1)</b>	0.737	0.797	
<b>Efficiency (X2)</b>		0.819	
<b>Use of Mobile Banking (Y)</b>	0.672	0.685	0.756

The Fornell-Larcker criterion has been met because, as shown in the table above, the square root of AVE for each construct is higher than the correlation with the other construct. The value of cross loading is the next condition that must be taken into account. An indicator is considered to have met this standard if its outer loading on the related construct is greater than its cross loading on the unrelated construct. The Cross Loading table displays the value of the loading factor.

**Table 5, Cross Loading**

	<b>Facilities (X1)</b>	<b>Efficiency (X2)</b>	<b>Use of Mobile Banking (Y)</b>
<b>X1.1</b>	0.86	0.615	0.555
<b>X1.2</b>	0.838	0.571	0.549
<b>X1.3</b>	0.76	0.569	0.495
<b>X1.4</b>	0.755	0.607	0.538
<b>X1.5</b>	0.797	0.6	0.553
<b>X1.6</b>	0.766	0.559	0.522
<b>X2.1</b>	0.609	0.804	0.504
<b>X2.2</b>	0.642	0.844	0.596
<b>X2.3</b>	0.596	0.816	0.564
<b>X2.4</b>	0.568	0.779	0.534
<b>X2.5</b>	0.591	0.83	0.565
<b>X2.6</b>	0.611	0.836	0.593
<b>Y1</b>	0.524	0.487	0.753
<b>Y2</b>	0.489	0.546	0.786
<b>Y3</b>	0.521	0.523	0.77
<b>Y4</b>	0.476	0.509	0.7
<b>Y5</b>	0.551	0.549	0.778
<b>Y6</b>	0.484	0.488	0.743

Each outer loading has a greater value than cross loading on other constructs, according to the table. When evaluating discriminant validity, the heterotrait monotrait ratio (HTMT) is another important metric to take into

account. The average of all indicator associations across all constructs is HTMT. The highest possible HTMT correlation, as expressed by is 0.9. There is no discriminant validity if the HTMT correlation value is greater than 0.9. ( Ketchen, 2013)

**Table 6, Heterotrait Monotrait Ration (HTMT)**

	Facilities (X1)	Efficiency (X2)	Use of Mobile Banking (Y)
Facilities (X1)		0.825	
Efficiency (X2)			
Use of Mobile Banking (Y)	0.775	0.781	

No HTMT correlation values greater than 0.9 were found in the table. The HTMT test and discriminant validity both passed with this score. At this point, the discriminant validity test has determined that each construct is different from the other and can capture phenomena that other constructs in the model cannot capture. This means that each concept is empirically different. Therefore, it is concluded that all indicators meet the requirements of the discriminant validity test.

#### Reliability Test

To start evaluating the outer model, we have to look at the outer loading. There are many components together, as can be seen from the high outer loading. External charge values as low as 0.7 are considered minimal. The results of the external load test are shown in the table below: ( Ketchen , 2013)

**Table 7, Reliability Test**

	Facilities (X1)	Efficiency (X2)	Use of Mobile Banking (Y)
X1.1	0.86		
X1.2	0.838		
X1.3	0.76		
X1.4	0.755		
X1.5	0.797		
X1.6	0.766		
X2.1		0.804	
X2.2		0.844	
X2.3		0.816	
X2.4		0.779	
X2.5		0.83	
X2.6		0.836	
Y1			0.753
Y2			0.786
Y3			0.77

<b>Y4</b>	0.7
<b>Y5</b>	0.778
<b>Y6</b>	0.743

The table shows that all indicators have an outer loading value of 0.70 or more, according to the convergent validity test. Thus, all of the research indicators are valid.

*Evaluasi Inner Model (Structural Model Assessment)*

Once the model measurements are established to be valid and reliable, the next evaluation is the Structural Model Assessment, which is also known as the internal model evaluation. Collinearity, importance and relevance of model relationships, model explainability, and predictability of models are some of the tests used for internal model evaluation. ( Ketchen , 2013)

*Assess The Structural Model For Collinearity Issues (VIF)*

Collinearity is a condition in which two or more (independent) predictor variables in a model have a high linear relationship, meaning that they are strongly related to each other. The collinearity test can be done by looking at the VIF value. If the VIF value is < 5 then the model is fit and can be continued to the next step. The results of the VIF test can be seen in the following table:

**Table 8, Assess The Structural Model For Collinearity Issues (VIF)**

<b>BRIGHT</b>	
<b>X1.1</b>	2.731
<b>X1.2</b>	2.518
<b>X1.3</b>	1.839
<b>X1.4</b>	1.744
<b>X1.5</b>	2.358
<b>X1.6</b>	1.896
<b>X2.1</b>	2.527
<b>X2.2</b>	2.759
<b>X2.3</b>	2.392
<b>X2.4</b>	2.023
<b>X2.5</b>	2.915
<b>X2.6</b>	2.579
<b>Y1</b>	1.893
<b>Y2</b>	2.02
<b>Y3</b>	1.925

<b>Y4</b>	1.6
<b>Y5</b>	1.875
<b>Y6</b>	1.735

The VIF value between the research variables has reached the test limit, which is less than 5, as shown in the table above. In general, the model is good, based on the results of the internal model test.

#### *Path Coefficients Test*

At this point, the path coefficient and t-value are used to perform the test. In a model, a weak relationship is indicated by a path coefficient value close to 0, while a good relationship is indicated by a value close to 1. In addition, at a certain error level, the value of t indicates how significant the relationship between variables is. According to the t-value it should be higher than 1.95 because the researcher used a significant error threshold of 5%. In the table, you can see the path coefficient and the value t. (Ketchen, 2013)

**Table 9, Path Coefficients Test**

	<b>Original sample (O)</b>	<b>Sample mean (M)</b>	<b>Standard deviation (STDEV)</b>	<b>T statistics (O/STDEV)</b>	<b>P values</b>
<b>Convenience (X1) -&gt; Use of Mobile Banking (Y)</b>	0.367	0.366	0.083	4.414	0
<b>Efficiency (X2) -&gt; Mobile Banking Use (Y)</b>	0.415	0.417	0.084	4.94	0

With a coefficient of 0.367 ( $t = 4.414, p < 0.05$ ), convenience (X1) also significantly and positively affected the use of mobile banking (Y). Users tend to prefer mobile banking if it is easy to use. The impact of Efficiency (X2) on Mobile Banking Use (Y) was positive and statistically significant (coefficient 0.415,  $t = 4.94, p < 0.05$ ). This means that people tend to prefer a mobile banking system if it is efficient.

#### *R-Squared Test (R-Square Value)*

Evaluating the explainability of the structural model is the third step in the evaluation process. The strength of the relationship suggested by the PLS path model is a measure of the model's explanatory power, which is connected to its ability to adjust the current data. The R-squared value of a structural model, also known as its coefficient of determination, is the gold standard for measuring the model's ability to explain the observed data. Improved research models with higher R-squared values are those that can make more accurate predictions. The results of the value test analysis are shown in Table 10.

**Table 10, R-Square**

	R-square	R-square adjusted
<i>Use of Mobile Banking (Y)</i>	0.531	0.529

A modified  $R^2$  value of 0.529 yields an  $R^2$  value of 0.531 when applied to the use of mobile banking (Y). This suggests that additional factors influence the remaining variation in mobile banking usage; the model accounts for 53.1% variance when Efficiency (X2) and Ease (X1) are combined.

*Uji Goodness of Fit (GoF) Assess the Model's Predictive Power (Predictive Relevance (Q2) dan SRMR)*

The study path model cannot help managers make decisions unless they produce results that apply to other contexts. In order to draw conclusions that can be applied to other datasets, it is necessary to determine whether the research can be applied to the datasets used for the calculation. To evaluate predictive power, one can check the predictive relevance value (Q2). Higher Q-squared values indicate more reliable study findings and a greater ability to generalize those findings to other samples. You can see the Q2 test results in the table below: ( Ketchen , 2013)

**Table 11, Predictive Relevance (Q2)**

	SSO	SSE	$Q^2 (=1 - \frac{SSE}{SSO})$
<i>Use of Mobile Banking (Y)</i>	2286	1598.651	0.301

The  $Q^2$  value for Mobile Banking Usage (Y) is 0.301, which is greater than zero. This indicates that the model has a fairly good predictive relevance in explaining the dependent variables.

**Table 12, SRMR**

	Saturated model	Estimated model
<b>SRMR</b>	0.06	0.06

The SRMR value in this model is 0.06, which is below the 0.08 limit. This confirms that the model has a good level of fit and is in accordance with empirical data.

## Discussions

### *Effect of Convenience (X1) on Mobile Banking Use (Y)*

These results show that ease significantly affects the use of mobile banking (path coefficient = 0.367, statistical  $t = 4.414$ ,  $p = 0.000$ ). This shows that the level of acceptance and usage by users is directly proportional to how easy mobile banking services are to use. To improve the use of these services, they must be easily accessible, have an intuitive interface, and be easy to navigate.

The majority of college students consider mobile banking to be an easy-to-use service, according to a descriptive statistical analysis. While 45.4% of college students say the service helps them pay on time, 51.5% say they feel comfortable using mobile banking to pay for Single Tuition Fees (UKT), according to the Descriptive Statistical Table for Convenience Variables. In addition, students are generally happy with the mobile banking

capabilities, with 41.5% strongly agreeing that the functions are not confusing to users and the overall impression is that they are easy to use and intuitive. According to this study, learners are more likely to use mobile banking services for their future financial needs if they are easy to use.

In addition, the ease of using mobile banking also plays a role in improving the efficiency of student financial transactions. As explained in information systems theory by Pratiwi (2019), efficiency in financial technology reflects the extent to which a service can minimize the use of resources (time and cost) to obtain optimal results. The Descriptive Table on Mobile Banking Use shows that 47.1% of students stated that mobile banking always works well when making UKT payments, while another 41.3% assessed that transaction notifications are received quickly after payments are made. This efficiency aspect further strengthens the positive relationship between the ease of use and the adoption of mobile banking among FKIP UMS students. (Practical, 2019)

One of the main reasons why digital financial technology is gaining popularity, especially among college students, is the ease of use of mobile banking. Based on the research that has been conducted, the convenience variable has a significant and positive effect on the use of mobile banking at FKIP UMS. Higher acceptance and usage rates by college students are attributed to easy-to-use mobile banking services, according to this data. A user-friendly interface, easy navigation, and features that make banking transactions easier (e.g., UKT payments) are part of this convenience.

A key component in the level of acceptance of new technologies is their ease of use, or how people perceive their ease of use, according to Davis' (1989) theory of the Technology Acceptance Model (TAM). Users are more likely to use technology, according to this paradigm, if they find it intuitive and easy to master. Previous research has shown that users are more likely to use mobile banking apps regularly when they are well-designed and easy to use. These findings are consistent with this.

This finding is also supported by previous research. For example, Aini et al. (2022) found that there are several markers of ease of use, including easy to learn, flexible, controlled, and mastered. Evidence shows that these factors contribute to higher levels of mobile banking use among FKIP UMS students. College students are more likely to use mobile banking apps for their daily financial needs if they believe that it doesn't require any special abilities. (Aini et al., 2022)

Furthermore, ease of use helps to improve transaction efficiency in terms of time and money. Mobile banking has revolutionized financial transactions by offering more practical solutions compared to traditional methods, according to research by Iqbal et al. (2021). Without having to set foot in a bank or use an ATM, students can now make a large number of financial transactions from making payments to transferring funds using just their mobile devices. This component adds weight to the correlation between ease of use and the extent to which people use mobile banking. (Iqbal et al., 2021)

This phenomenon can be better understood through the perspective of Venkatesh et al. (2016) Unified Theory of Acceptance and Use of Technology (UTAUT), which is an information systems theory. According to UTAUT's theory, people tend to want to use and eventually adopt technology if it's easy to use. When it comes to mobile banking, the ease of use and intuition of the system determine how likely students are to rely on it for their financial management needs. (Venkatesh et al., 2016)

The above explanation leads us to the conclusion that one of the most important factors in the widespread use of mobile banking is its ease of use. However, the benefits are not without drawbacks; Security issues and over-reliance on technology are two of the many issues that need to be addressed. To improve the client experience and build trust in mobile banking services, banks must continue to innovate by creating solutions that can balance accessibility with high security.

The results of this study are in line with the study, and which found that there is a significant positive influence of ease of use on the use of mobile banking. (Amalia & Hastriana, 2022) (Handinisari et al., 2022) (Euglezyano & Murtiasih, 2025) (Amanda & São Paulo, 2023) (Lailani & Regina, 2021)

Then the research from and found that there was a significant positive effect of convenience on the use of mobile banking. (Ho et al., 2020) (Farzin et al., 2021) (Emon et al., 2023) (Esmaeili et al., 2021) (Kusuma, 2020) (Jahan & Shahria, 2022)

#### *The Effect of Efficiency (X2) on Mobile Banking Use (Y)*

With a t-statistic of 4.94 and a p-value of 0.000, the path coefficient is 0.415, which indicates that efficiency significantly and positively affects the use of mobile banking. This proves that customers tend to take advantage of mobile banking services to the maximum if the service is comfortable and easy to use. A better user experience can be achieved primarily through faster service and more efficient transaction processing.

Most FKIP UMS students consider mobile banking services as a convenient way to manage their money, according to data from the Descriptive Statistics Table of Efficiency Variables. When asked if mobile banking makes it easier to pay UKT, 38.4% of students answered yes, and 44.7% answered no, adding mobile banking to their daily routine is not a barrier. Students appreciate the convenience of being able to make payments whenever they want, without having to queue at banks or ATMs. Time and money saved are another sign of efficiency; Almost half of the students (41.6%) to be exact are of the opinion that mobile banking transactions are better than the old way.

Among the many reasons why mobile banking is increasingly popular among active students at the Faculty of Teacher Training and Education (FKIP) UMS, efficiency is one of the main reasons. The study found that the adoption of mobile banking was positively and significantly influenced by efficiency variables. This shows that students are more likely to consistently use mobile banking services if they are efficient in enabling financial transactions. The term "efficiency" is used here to refer to things like how quick and easy access to something is, how well money is managed, and how much time and money is saved during transactions. (Stuttgart & Hasibuan, 2022; Secular et al., 2021; Syarif et al., 2024)

One common way to measure the efficiency of a system in information systems theory is to look at its inputs and outputs side by side. Efficiency in financial technology is defined by Pratiwi (2019) as the degree to which a service can maximize results while minimizing the use of resources such as time and money. Mobile banking services have made student financial transactions more efficient with features such as bill payments, fund transfers, and real-time balance checking. Thanks to this service, FKIP UMS students can spend more time studying and reduce the time in line at banks and ATMs. (Practical, 2019)

In addition, Septa and Ali (2024) found that there are six main indicators of financial service efficiency: operational efficiency, productivity, effectiveness in transactions, financial management, better access on time, and service consolidation. When it comes to mobile banking services, this metric helps ensure that students get fast, reliable, and easy-to-use services. For example, compared to traditional payment methods, mobile banking capabilities that allow transactions in seconds offer a more convenient user experience. To better understand the impact of efficiency on the use of mobile banking, it is worth referring to Davis' (1989) Technology Acceptance Model (TAM) theory. (Septa & Hapzi Ali, 2024)

User trust and enthusiasm for new technologies can be driven by the impression of system efficiency, according to this paradigm. Students' trust in mobile banking services is directly proportional to how well the technology handles transactions and provides real-time financial information. Students in general are satisfied with the ease of use of the UKT payment function, with 42.7% agreeing that the function is easy to use even for new users and 42.8% strongly agreeing that the time it takes to make UKT payments through mobile banking is very short. The

premise that students prefer efficient and accessible systems in their academic lives is supported by this research. (Vahlevi & Indra Vitaharsa, 2022; Welly et al., 2020; Yuniati et al., 2022)

In addition, the Unified Theory of Acceptance and Use of Technology (UTAUT) theory by Venkatesh et al. (2016) also states that efficiency contributes to increased technology adoption, especially in the context of digital financial services. FKIP UMS students feel that mobile banking provides benefits in terms of time effectiveness and transaction flexibility, allowing them to make payments anytime and anywhere. The Descriptive Table on Mobile Banking Use also shows that 44.3% of students strongly agree that they can make UKT payments at any time according to their needs, while another 39.4% consider that the combination of various services in mobile banking makes UKT payments more practical. This shows that the more efficient a digital financial service is, the more likely it is that students will continue to use it as the primary solution in their transactions. (Venkatesh et al., 2016)

Previous research conducted by Syahputra & Suparno (2022) revealed that efficiency in digital banking services contributes to improving the financial performance of banks, which reflects high adoption by customers, including among students. In other words, efficient mobile banking services not only benefit users but also increase the bank's competitiveness in the digital finance industry. Therefore, banking service providers must continue to develop more innovative features to increase the efficiency and attractiveness of mobile banking for students. (Syahputra & Suparno, 2022)

It can be concluded that efficiency in mobile banking plays an important role in driving the level of adoption of this service by customers. Although it offers various benefits, there are still challenges that need to be overcome so that the use of mobile banking remains guaranteed to be secure and provide convenience for customers. Therefore, continuous efforts are needed from the banking sector to maintain a balance between efficiency, security, and quality of services provided.

The results of this study are in line with the research, , , and which found the effect of efficiency on the use of Mobile Banking. Then the research from , , and which found the effect of efficiency on the use of Mobile Banking. The Effect of Convenience (X1) and Efficiency (X2) Together on the Use of Mobile Banking (Y) (Mukhtisar et al., 2021) (Andriyati et al., 2022) (Rohmawati et al., 2023) (Iqbal et al., 2021) (Amalia & Hastriana, 2022) (Zhou et al., 2021) (Navavongsathian et al., 2020) (Al-Saedi et al., 2020) (Li et al., 2021)

With a t-statistic of 4.94 and a p-value of 0.000, the path coefficient is 0.415, which indicates that efficiency significantly and positively affects the use of mobile banking. This proves that customers tend to take advantage of mobile banking services to the maximum if the service is comfortable and easy to use. A better user experience can be achieved primarily through faster service and more efficient transaction processing.

**Table 13, Test F (Simultaneous)**

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2429.928	2	1214.964	211.473	.000 <sup>b</sup>
	Residual	2171.700	378	5.745		
	Total	4601.627	380			

a. Dependent Variable: Penggunaan Mobile Banking

b. Predictors: (Constant), Efisiensi, Kemudahan

Based on the results of the F test of the ANOVA table, the calculated F value is 211.473, and the significance level is 0.000, which is smaller than 0.05. This shows that the use of mobile banking is significantly influenced by independent variables of efficiency and convenience at the same time. This means that the variance of dependent variables can be adequately explained by regression models, and that the relationship between independent and dependent variables is valid for further research.

## CONCLUSION

Researchers at the University of Muhammadiyah Surakarta found that students are more likely to use mobile banking to pay UKT (Single Tuition) because it is more convenient and does not take long. This shows that students are more likely to use mobile banking services for UKT payment transactions if it is easy and efficient.

Many things contribute to the ease of use of mobile banking, including a well-designed interface, easy-to-understand menus, and an intuitive learning curve. However, the effectiveness of mobile banking services is evidenced by the speed of transactions, better financial management, and easy access to services at any time and from any location.

Furthermore, the study's findings suggest that the model can explain most of the variance in mobile banking usage; Nonetheless, other factors may still play a role in consumers' decision to use these services. So, to increase the use of mobile banking, financial service providers must continuously improve the user experience and make it more efficient. To better understand mobile banking user behavior, future studies could incorporate other elements including trust, security, and user experience.

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