

The Factors On Mobile Banking-Based Application User Satisfaction And Personal Finance As Intervening Variable

Oman Rusmana¹, Rasyiqha Rifa Haiba², Rini Widianingsih³, Rahayu Anggraeni⁴

¹Universitas Jenderal Soedirman, oman.rusmana@unsoed.ac.id, Indonesia

²Universitas Jenderal Soedirman, rasyiqha.haiba@mhs.unsoed.ac.id, Indonesia

³Universitas Jenderal Soedirman, ri3n.wibowo@gmail.com, Indonesia

⁴Sekolah Tinggi Ilmu Ekonomi Muhammadiyah Cilacap, hayu.ang@gmail.com, Indonesia

ABSTRACT

This study aims to analyze and determine how much perceived usefulness, service quality, and quality of Self-Service Technology mobile banking-based applications influence user satisfaction and personal finance during the Covid-19 pandemic in South Tangerang City. The method used in this study is a quantitative method using primary data obtained from distributing questionnaires. The sampling technique used is purposive sampling with a sample size of 200 respondents. The data analysis method in this study uses the Structural Equation Model (SEM) with SmartPLS 3.0. These results indicate that perceived usefulness, service quality, and quality of Self-Service Technology positively affect user satisfaction and personal finance.

Keywords: Perceived Usefulness, Service Quality, Quality of Self-Service Technology, User Satisfaction, Personal Finance, Mobile Banking

1. Introduction

The digital industrial revolution 4.0 refers to the advancement of information technology that disrupts the way businesses and professionals operate (Ali S, 2020). The development of information technology has a beneficial impact on helping persons to continue their activities during the social distancing restrictions. The government and health departments' proposed social distance limits have led to the Work From Home (WFH), office, lecture, learning, business, and banking operations conducted online. During the pandemic, information technology is critical for coordination and communication and one of the efforts to maintain the spreading of the disease. Information technology has transformed the way people live, work, and interact, notably in the financial industry.

As one of the financial sectors, banks are essential items that make use of information technology. Banks began by transitioning services to customers from conventional to digital technology. According to Bank Central Asia (BCA) record, only 0.5% of customer transactions were carried out at branch offices. In comparison, 88% were carried out via mobile banking and internet banking, and 11.4% were carried out at ATMs. The transition from conventional banking to digital can improve work process efficiency and customer service quality by following consumer transaction patterns that require convenience in every banking service.

Financial Technology refers to banking institutions' financial innovation by providing solutions in product areas such as payments, remittances, savings, and personal financial management (Saal et al., 2017). One of the banking financial transaction services that implement FinTech to facilitate customers conducting banking transactions during the pandemic is mobile banking, also known as m-banking. Mobile banking is one of the electronic banking features that the public uses to conduct payment activities, remittances, account mutations, and other activities during the Covid-19 pandemic.

According to a survey by the World Bank and the Center for Alternative Finance (CCAF), in mid-2020, digital payment activities increased by 65%, followed by digital banking by 24%. The survey indicates that electronic banking transactions are now widely accepted globally. Other survey data from Bank Indonesia showed that growth increased 13.91% year over year to Rp2,774.5 trillion, a considerable gain compared to card transactions.

Based on research conducted by Wijayanti (2021), present data on e-banking users by clients before and after the Covid-19 pandemic, is shown in tables 1 and 2 below:

Table 1. Average Usage Before the Pandemic

Amount of Usage	Percentage
< 5 times per month	32%
5-10 times per month	49%
>10 times per month	19%

Source: Wijayanti (2021)

Table 2. Average Usage Before the Pandemic

Amount of Usage	Percentage
< 5 times per month	13%
5-10 times per month	24%
>10 times per month	63%

Source: Wijayanti (2021)

Before the pandemic, the average use of e-banking for transactions was 5-10 times per month or roughly 49%. After the pandemic, the average use of e-banking increased to 10 times per month, about 63%. As shown in the two tables above, the usage of e-banking increased significantly during the pandemic.

Technology advancements have a positive impact on society. A person who devise new ways to commit fraud and computer abuse, also known as cyber-criminals (Romney et al.,

2021). Every month, the National Police's Cyber Crime Investigation Center (CCIC) receives cybercrime cases, with 70% of them involving alleged illegal online loan fraud. On suspicion of violating Article 35 Juncto 51 Article 27 Juncto 45 of the ITE Law and able to do illegal access, Polda Metro Jaya officers searched an illegal online loan agency in Tangerang. Mobile phone data can be accessed in its entirety, resulting in personal data, phone contacts, and emails connected to all social media platforms simultaneously, controlled by online lenders or those who get illegal access.

Even though numerous cyber-crime cases have occurred during this pandemic, the use of mobile banking applications has steadily increased. This suggests that several factors increase user satisfaction with mobile banking applications. Customers can identify specific items to be assessed as measurement factors for customer satisfaction, such as the quality of perceived usefulness, service quality, and the quality of Self-Service Technology in the use of mobile banking-based applications. In addition, customer satisfaction is essential in achieving the fast and healthy development of personal finance services.

Mobile banking advancements in financial technology should make it easier for clients to manage their personal finances. It is essential to manage personal finance to keep us on track. Personal financial management activities include expenses, income, investments, savings, retirement planning, insurance, and other financial arrangements (Antonio et al., 2021). Based on Qian (2019) research, the condition of digital finance platform facilities positively affects the use of digital financial platforms for personal financial management.

Every customer has a different perspective on the use of technology. Mobile banking is one of the uses of technology in the financial industry which is expected to provide benefits in accessing financial services and products for customers. Perceived usefulness is defined as a person's belief that using the system will increase its performance and be a relative benefit (Davis, 1989). The results of Inayah et al., (2018), perceived usefulness positively affects attitudes to using m-banking.

Maximizing mobile banking services, digital finance applications that provide financial services and products to the public via cellphones and the internet. The customer will assess the quality of services based on his perception of how quality services can fulfill satisfaction with their use and how the completeness of the service may assist clients in managing their finance. According to Kotler & Keller (2016), service quality is the ability to satisfy the needs of the totality of features and characteristics of a product or service stated or implied. In a study conducted by Nawangsari & Widiastuti (2018), service quality affects customer satisfaction due to the quality of services provided to fulfill or satisfy consumer needs.

The development of Self-Service Technology can be a solution in the pandemic period. Self-Service Technology (SST) is an innovative transaction channel where no interpersonal contact is required between the customer and the service provider (Amin et al., 2019). By utilizing Self-Service Technology, mobile banking-based application services focus on reaction speeds on reported needs, reduce service time, and provide convenience to customers. De Leon et al., (2020) found that the quality of SST service has a positive and significant effect on customer satisfaction in the mobile banking application.

This study aims to analyze and determine how much perceived usefulness, service quality, and quality of Self-Service Technology mobile banking-based applications influence user satisfaction and personal finance during the Covid-19 pandemic in South Tangerang City.

2. Literature Review and Hypothesis Development

Literature Review

2.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) has been used to assess system users of technology in various settings, including mobile banking. This theory provides a powerful and straightforward explanation for technological acceptance and user behavior (Davis, 1989). The Technology Acceptance Model's primary objectives are to explain the identification of aspects that drive the success of new information systems and the adaptability of technology acceptance and use.

2.2 Financial Literacy Theory

According to the Financial Services Authority (OJK), financial literacy influences a person's attitudes and behavior to maximize the quality of financial management decisions and achieve prosperity. Financial literacy refers to a person's emotional approach to making financial decisions (Skagerlund et al., 2018). An understanding of financial literacy is essential and must be possessed by each individual to achieve economic prosperity in the future.

2.3 Perceived Usefulness

Perceived usefulness is the extent to which a person believes that using a particular system can improve his performance (Davis, 1989). The concept of perceived usefulness is one of the beliefs in the Technology Acceptance Model (TAM) theory developed by Davis (1989) as a basis for studying and understanding individual behavior as users of information systems and recipients of information systems.

2.4 Service Quality

Everything that customers feel or imagine when they think of a product or service is quality of service. The level of service determines service quality received compared to the level of service expected. According to Kotler & Keller (2016), service quality is defined as the ability to meet the needs of the entire set of stated or implied qualities and characteristics of a product or service.

2.5 Quality of Self-Service Technology

The concept of Self-Service has been developed into a new function as Self-Service Technology (SST). Self-Service Technology is an innovative transaction channel that eliminates the need for the client and service provider to interact (Amin et al., 2019). Self-Service Technology deployment is expected to deliver efficient services, make self-service easier for clients, and pay attention to system security from transaction data to customer personal data (Fernando et al., 2020), (Hosseini, 2015).

2.6 User Satisfaction

According to Kotler & Keller (2016), satisfaction is a feeling of pleasure or displeasure resulting from comparing of their expectations between the product's perceived performance and their expectations. Someone determines these thoughts or attitudes after purchasing or consuming a

product or service. Satisfaction is a function of a products or services perception, and it can be defined as an assessment of a product or service's actual performance (Toor et al., 2016).

2.7 Personal Finance

Financial management is a component of personal financial management (PFM) or also known as personal finance, which is the process of an individual managing financial management resources in and systematic way from individual. Personal financial management is the process of gaining information and understanding of financial conditions to use them as assets in daily life and future planning (Priantinah et al., 2019). Personal financial management activities include expenses, income, investments, savings, retirement planning, insurance, and other financial arrangements (Antonio et al., 2021).

2.8 Mobile Banking

Mobile banking is a convenient solution that allows clients to execute transactions from any place and at any time. Mobile banking is a service provided by financial institutions or banks to allow consumers to execute financial and non-financial transactions using mobile devices such as mobile phones, Personal Digital Assistants (PDA), and tablets (Tam & Oliveira, 2017).

Hypothesis Development

2.9 Effect of Perceived Usefulness on User Satisfaction

Perceived usefulness has been applied to several types of information technology to measure innovation performance. The mobile banking application is one of digital banking's information technology developments, and its use is closely linked to the benefits it provides. The usefulness of the mobile banking application to clients will be closely related to its application, which will impact user satisfaction. When a mobile banking application has a several benefits and offers a relative advantage, it can enhance user satisfaction.

This statement is supported by Ashsifa (2020) research, which found that perceived usefulness positively impacts customer satisfaction. Based on this explanation, the hypothesis can be formulated as follow

H1: Perceived Usefulness has a positive influence toward user satisfaction of mobile banking-based application.

2.10 Effect of Service Quality on User Satisfaction

Service quality refers to customer expectations and serves as a point of reference for interpreting whether or not actual service performance met or exceeded those expectations (Setiawan, 2016). Providing quality service is one of the most essential criteria in determining user satisfaction. How far does perceived service depart from consumer expectations for the service they should receive (Kotler & Keller, 2016).

As a result, the higher the quality of service, the more satisfied clients are. This statement is supported by research conducted by Azisyah (2016); Nawangsari & Widiastuti (2018), that service quality has a significant effect on customer satisfaction. Based on this explanation, the hypothesis can be formulated as follows:

H2: Service quality has a positive influence toward user satisfaction of mobile banking-based application.

2.11 Effect of Quality of Self-Service Technology on User Satisfaction

Through developing innovation SST, customer engagement and customer satisfaction play a significant role as a measurement of customer affective perception. Ease of use and the level of usefulness of SST are the first indicators that affect user satisfaction, based on research conducted by (Wicaksono, 2015).

This is in line with research conducted by De Leon et al., (2020), shows that the service quality of SST has a significant positive effect on customer satisfaction on mobile banking applications. Based on this explanation, the hypothesis can be formulated as follows:

H3: Quality of Self-Service Technology has a positive influence toward user satisfaction of mobile banking-based application.

2.12 Effect of Personal Finance on User Satisfaction

Improving customer satisfaction is the key to achieving rapid and healthy development of personal financial management services. Financial applications such as mobile banking provide services and assist with financial transaction, such as analyzing financial resources, collecting transaction invoices from history, saving money, and monitoring finances on an ongoing basis. Customers can also use financial transaction information as a reference to assist in managing personal finances.

This statement is supported by research conducted by Priantinah et al., (2019), which found that the benefits of mobile application technology for personal financial management are acceptable to users. Based on this explanation, the hypothesis can be formulated as follows:

H4: Personal Finance has a positive influence toward user satisfaction in mobile banking-based application.

2.13 Effect of Personal Finance in Mediating the Effect of Perceived Usefulness, Service Quality, and Quality of Self-Service Technology on User Satisfaction

As Qian (2019) has stated, personal finance may be scaled up using digital finance platforms that facilitate its usability. The digital finance platform employed in this study is mobile banking, as an application that may help clients manage their personal finance. Existence of mobile banking application services that aid clients in completing financial transaction with self-services and assisting in managing personal finance.

This study examines aspects of perceived usefulness, service quality, quality of Self-Service Technology, and user satisfaction that affects customer in managing personal finances. The more mobile banking application can more well-received by users, the determining factors that affect user satisfaction assessments might aid utilization in personal finances. As a result, personal finance is considered capable of mediating the effect of perceived usefulness, service quality, and the quality of Self- Service Technology on user satisfaction. Based on this explanation, the hypothesis can be formulated as follows:

H5: Personal finance mediates the effect of perceived usefulness, service quality, and the quality of Self-Service Technology on user satisfaction.

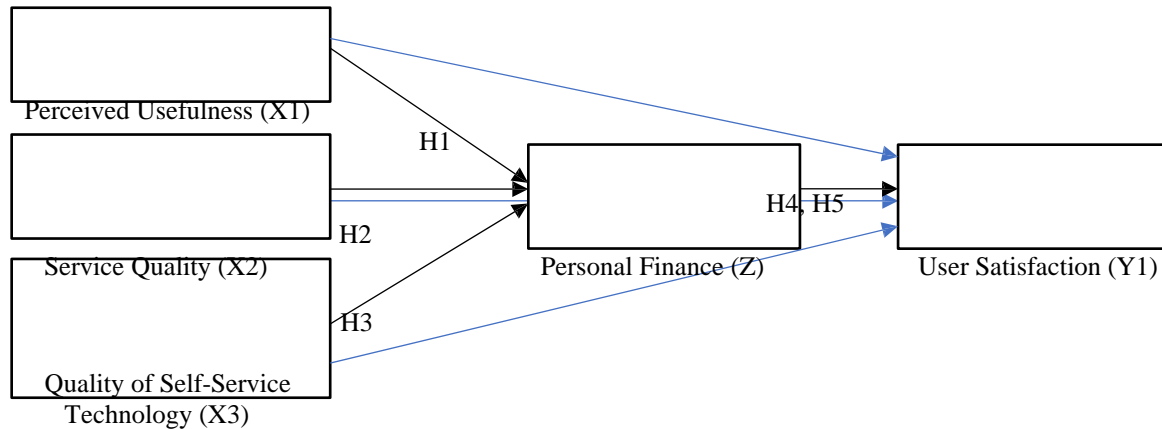


Figure 1. Research Model

3. Research Method

3.1 Research Design

- **Type of Research**

The type of research used in this study is quantitative research using survey methods with questionnaire techniques to obtain individual opinion data.

- **Research Location**

The study's location will be conducted on customers who are active users of mobile banking-based application users who are domiciled in South Tangerang.

- **Object of Research**

The object of this research is user satisfaction and personal finance on mobile banking-based applications in the South Tangerang city during the Covid-19 pandemic.

- **Population and Research Sample**

The population in this study are banking customers who live in South Tangerang City and use mobile banking at the five conventional banks that the Indonesians most widely use. According to the Indonesia Stock Exchange (IDX), five conventional banks are most widely used, namely Bank Mandiri, Bank BRI, Bank BCA, Bank BNI, and Bank BTN. Sampling was carried out using a non-probability sampling technique, indicating that sampling does not provide equal opportunities for individuals of the population to be sampled. The criteria used by researchers are bank client that lives in the South Tangerang area, have a mobile banking application with a personal account and are 18 to 45 years old and above. The sample size is determined using the Hair et al., (2006) formula, the number of indicators (40) x sample size (5), the minimum sample for this study is 200 respondents.

- **Type of Data**

The data source used in this study is primary data. The data collection method uses a questionnaire which will be distributed online via Google Form.

- **Method of Collecting Data**

Questionnaires will be distributed online using a Google form to respondents. Respondents will be asked to complete a Likert Scale with a range of 1-4. Score (1) for stating “Strongly Disagree” to score (4) for stating “Strongly Agree”.

3.2 Conceptual and Operational Definitions of Variable

- **Dependent Variable (Y)**

In this study, the dependent variable is user satisfaction (Y). According to Azisyah (2016), user satisfaction indicators include:

- Overall Customer Satisfaction
- Customer Satisfaction Dimension
- Confirmation of Expectation

- **Independent Variable (X)**

In this study, the independent variable is perceived usefulness, service quality, and Self-Service Technology.

- **Perceived Usefulness (X1)**

Indicators on perceived usefulness according to Davis (1989), namely:

- Increase Productivity
- Effectiveness
- Overall Usefulness

- **Service Quality (X2)**

According to Arcand et al., (2017), service quality indicators include:

- Reliability
- Security
- Ease
- Convenience
- Application System

- **Quality of Self-Service Technology (X3)**

According to Lin & Hsieh (2011), Self-Service Technology indicators include:

- Functionality
- Enjoyment
- Privacy
- Design
- Assurance
- Convenience
- Customization

3.3 Mediating Variable (Z)

In this study, the intervening variable is personal financial management (Z). According to Warsono (2010), personal financial management indicators include:

- Use of Funds
- Future Planning

3.4 Data Analysis Technique

The research hypothesis was tested using the Structural Equation Model (SEM) approach using Partial Least Square (PLS). SmartPLS 3.0 technology aided the PLS data analysis methodologies employed in this study.

- **Outer Model**

Table 3. Outer Model Assessment

Test	Assessment Criteria
Convergent Validity	Loading Factor > 0.70
	AVE > 0.50
Discriminant Validity	The square root of AVE must be greater than the correlation value between latent variables.
	Cross Loading > 0.70 and the indicator of each variable is greater than the other variables.
Reliability	Cronbach's Alpha > 0.70
	Composite Reliability > 0.70

Source: (Latan & Ghozali, 2015)

- **Inner Model**

Table 4. Inner Model Assessment

Test	Assessment Criteria
R-Square	Weak Category = 0.25
	Medium Category= 0.50
	Strong Category= 0.75
F-Square	Weak Category = 0.02
	Medium Category= 0.15
	Strong Category= 0.35
Q-Square	Weak Category = 0.02
	Medium Category= 0.15
	Strong Category= 0.35

Source: (Latan & Ghozali, 2015)

- **Hypothesis Testing**

Hypothesis testing is used to determine how significant the independent variable gives the role to the dependent variable and whether or not a hypothesis should be accepted. Assessment is done by looking at the p-value, t-statistics, and original sample in the output path coefficient. This study accepts the hypothesis if the p-value ≤ 0.05 with a t-statistical significance level > 1.96 and the original sample is positive.

- **Mediation Effect Analysis**

The test uses a three-step model to determine the mediation effect. The assessment criteria are carried out by looking at the p-value, t-statistic, and original sample. This study accepts the hypothesis if the p-value ≤ 0.05 with a t-statistical significance level > 1.96 and the original sample is positive.

4. Results and Discussion

General Description of the Study

- **Overview of Research Objectives**

The object of this study refers to the satisfaction of users' mobile banking-based applications in South Tangerang, as influenced by perceived usefulness, service quality, and the quality of Self-Service Technology as independent variables. The mobile banking application is also a tool that may aid customers in conducting financial transactions and financial activities, one of which is managing personal finances regarded as capable of becoming an intermediary or mediation in this study.

Data collected via a questionnaire technique that is distributed online to bank customers in South Tangerang who utilize mobile banking applications. As of 2020, 79.17% of the population in South Tangerang City uses the internet. In addition, financial transaction using digital banking in mobile and internet banking increased by 19% in South Tangerang, reaching Rp32,206 trillion.

- **Overview of Respondents**

Table 5. General Description of Research Respondents

No.	Information	Description	Total	Percentage
1.	Gender	Male	72	36%
		Female	128	64%
		Total	200	100%
2.	Profession	Pensiunan	99	49.5%
		Ibu Rumah Tangga	19	9.5%
3.	Age	18-25 years old	70	35%
		26-45 years old	75	37.5%
		>45 years old	31	15.5%
		Total	200	100%
		Pegawai Swasta	34	17%
		Pegawai Negeri Sipil	11	5.5%
		Total	200	100%
		BUMN	29	14.5%

Source: Processed data, 2022

Wiraswasta 21 10.5%

Table 6. Use of Mobile Banking Before the Pandemic

Amount of Usage	Total	Percentage
< 5 times per month	92	46%
5 – 10 per month	57	28.5%
>10 per month	51	25.5%
Total	200	100%

Source: Processed data, 2022

Table 7. Use of Mobile Banking After the Pandemic

Amount of Usage	Total	Percentage
< 5 times per month	29	14.5%
5 – 10 per month	85	42.5%
>10 per month	86	43%
Total	200	100%

Source: Processed data, 2022

Table 8. Banks Used by Respondent

Bank	Total	Percentage
BRI	20	10%
Mandiri	60	30%
BCA	78	39%
BNI	31	15.5%
BTN	11	5.5%
Total	200	100%

Source: Processed Data, 2022

Data Analysis

- **Descriptive Statistical Analysis**

Table 9. Descriptive Statistical Analysis of Perceived Usefulness Variable

Indicator	Scale					N	Min	Max	Mean
	1	2	3	4	5				
PU1	1	0	33	166	200	1	4	3.79	
PU2	1	5	45	149	200	1	4	3.64	
PU3	1	1	33	165	200	1	4	3.73	
PU4	1	1	31	167	200	1	4	3.74	
PU5	1	2	42	155	200	1	4	3.68	
PU6	1	0	47	152	200	1	4	3.63	
PU7	1	3	26	170	200	1	4	3.73	

PU8	0	1	46	153	200	2	4	3.71
Total	7	13	303	1277	1600	1	4	3.70
Percentage	0.45%	0.81%	18.93%	79.81%	100%			

Source: Processed Data, 2022

Table 10. Descriptive Analysis of Service Quality Variable

Indicator	Scale					Min	Max	Mean
	1	2	3	4	N			
SQ1	0	4	61	135	200	2	4	3.64
SQ2	0	5	56	139	200	2	4	3.65
SQ3	0	4	60	136	200	2	4	3.66
SQ4	0	8	77	115	200	2	4	3.52
SQ5	1	1	41	157	200	1	4	3.74
SQ6	0	5	57	138	200	2	4	3.64
SQ7	0	1	52	147	200	2	4	3.71
SQ8	1	3	57	139	200	1	4	3.64
SQ9	0	2	45	153	200	2	4	3.73
SQ10	1	3	49	147	200	1	4	3.70
Total	3	36	555	1406	2000	1	4	3.66
Percentage	0.15%	1.8%	27.75%	70.3%	100%			

Table 11. Descriptive Analysis of Quality of Self-Service
Technology Variable

Indicator	Scale					Min	Max	Mean
	1	2	3	4	N			
SST1	0	1	57	142	200	2	4	3.70
SST2	0	2	53	145	200	2	4	3.71
SST3	0	4	59	137	200	2	4	3.68
SST4	0	4	75	121	200	2	4	3.58
SST5	0	5	80	115	200	2	4	3.54
SST6	0	7	73	120	200	2	4	3.56
SST7	0	9	70	121	200	2	4	3.56
SST8	0	3	67	130	200	2	4	3.64
SST9	1	4	62	133	200	1	4	3.60
SST10	0	5	63	132	200	2	4	3.62
Total	1	44	659	1296	2000	1	4	3.61
Percentage	0.05%	2.2%	32.95%	64.8%	100%			

Table 12. Descriptive Analysis of User Satisfaction Variable

Indicator	Scale					Min	Max	Mean
	1	2	3	4	N			
US1	0	7	60	133	200	2	4	3.63
US2	0	3	48	149	200	2	4	3.74
US3	0	5	63	132	200	2	4	3.63
US4	0	5	67	128	200	2	4	3.62
US5	0	10	78	112	200	2	4	3.51
US6	0	5	68	127	200	2	4	3.61
Total	0	35	384	781	1200	2	4	3.62
Percentage	0	2.92%	32%	65.08%	100%			

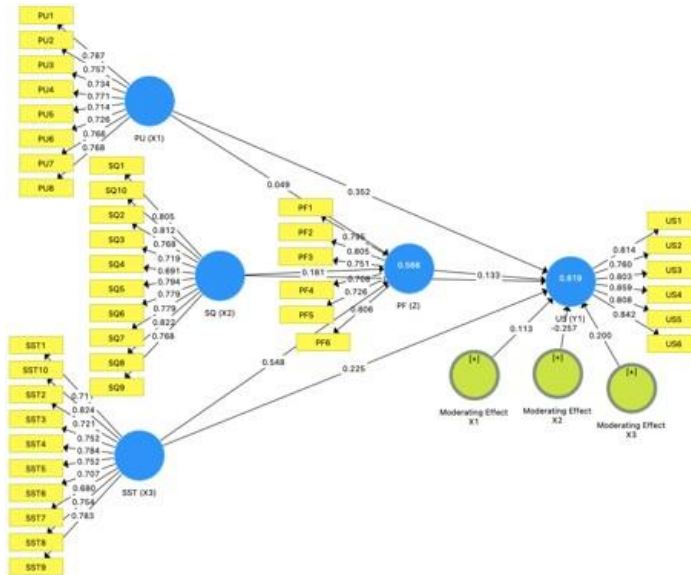
Source: Processed Data, 2022

Table 13. Descriptive Analysis of Personal Finance

Indicator	Scale					Min	Max	Mean
	1	2	3	4	N			
PF1	0	9	71	120	200	2	4	3.55
PF2	1	9	76	114	200	1	4	3.51
PF3	0	5	64	131	200	2	4	3.63
PF4	1	7	71	121	200	1	4	3.56
PF5	1	13	72	114	200	1	4	3.49
PF6	1	4	54	141	200	1	4	3.67
Total	4	47	408	741	1200	1	4	3.56
Percentage	0.33%	3.92%	34%	61.75%	100%			

- Outer Model Test
Convergent Validity Test

Figure 2. Outer Model Path Diagram



Source: Processed Data, 2022

The first assessment criteria, the loading factor has a high reflective measure if the correlation is more than 0.7 to be able to continue testing. According to Latan & Ghazali (2015), if a variable's value is less than 0.70, it can still be accepted with a loading scale of 0.50 to 0.60.

Table 14. Loading Factor Value Test Results

	PU	SQ	SST	US	PF
PU1	0.787				
PU2	0.757				
PU3	0.734				
PU4	0.771				
PU5	0.714				
PU6	0.726				
PU7	0.766				
PU8	0.768				
SQ1		0.805			
SQ2		0.768			
SQ3		0.719			
SQ4		0.691			
SQ5		0.794			
SQ6		0.779			
SQ7		0.779			

SQ8	0.822
SQ9	0.768
SQ10	0.812
SST1	0.711
SST2	0.721
SST3	0.752
SST4	0.784
SST5	0.752
SST6	0.707
SST7	0.680
SST8	0.754
SST9	0.783
SST10	0.824
US1	0.814
US2	0.760
US3	0.803
US4	0.859
US5	0.808
US6	0.845
PF1	0.795
PF2	0.805
PF3	0.751
PF4	0.708
PF5	0.726
PF6	0.806

Source: Processed Data, 2022

Table 16 shows that the loading factor value each indicator on all research variables is assessed following the established research criteria. The second assessment criterion, Average Variance Extracted (AVE), must have a value of 0.50 to pass convergent validity.

Table 15. AVE Value Test Results

Variable	Average Variance Extracted (AVE)
PU	0.567
SQ	0.600
SST	0.559
US	0.664
PF	0.587

Source: Processed Data, 2022

Table 15 shows that the AVE value each variable are all higher than 0.5, that indicates that each variable meets the established assessment criteria, allowing the research instrument to be declared fit for usage and the right to proceed to a deeper analysis.

- Discriminant Validity Test

The first assessment criteria, compare the AVE root to the correlation between variables; if the AVE root of a variable higher than the correlation value between variables, the variable can be declared pass.

Table 16. Test Results Comparison of AVE Roots with Correlation Between Variables

Variable	PF	PU	SQ	SST	US
PF	0.875				
PU	0.652	0.867			
SQ	0.693	0.841	0.880		
SST	0.744	0.822	0.858	0.864	
US	0.697	0.836	0.855	0.837	0.902

Source: Processed Data, 2022

Table 16 shows that the AVE root comparison between each variable is higher than the correlation between variables. As a result, the research variables are suitable for the assessment criteria.

The second criterion assessment, evaluate the cross-loading value. If each indicator on a variable has a higher value when compared to other variables and is more than 0.70, the cross-loading value can be passed. It can still be approved if the cross-loading value is between 0.50 and 0.60 (Latan & Ghazali, 2015).

Table 17. Cross Loading Value Test Results

	PF	PU	SQ	SST	US
PF1	0.795	0.500	0.489	0.550	0.532
PF2	0.805	0.512	0.542	0.572	0.553
PF3	0.751	0.454	0.506	0.516	0.532
PF4	0.708	0.431	0.447	0.467	0.476
PF5	0.726	0.440	0.479	0.581	0.468
PF6	0.806	0.628	0.684	0.701	0.622
PU1	0.513	0.787	0.667	0.616	0.609
PU2	0.507	0.757	0.689	0.657	0.654
PU3	0.499	0.734	0.625	0.648	0.637
PU4	0.477	0.771	0.637	0.599	0.607
PU5	0.498	0.714	0.649	0.613	0.672
PU6	0.457	0.726	0.564	0.614	0.589
PU7	0.460	0.766	0.597	0.559	0.636

PU8	0.511	0.768	0.631	0.640	0.623
SQ1	0.484	0.620	0.805	0.657	0.666
SQ2	0.506	0.633	0.768	0.635	0.647
SQ3	0.425	0.578	0.719	0.566	0.623
SQ4	0.482	0.559	0.691	0.612	0.619
SQ5	0.570	0.700	0.794	0.679	0.676
SQ6	0.590	0.696	0.779	0.718	0.685
SQ7	0.533	0.630	0.779	0.656	0.692
SQ8	0.588	0.704	0.822	0.694	0.690
SQ9	0.527	0.657	0.768	0.655	0.655
SQ10	0.636	0.719	0.812	0.757	0.667
SST1	0.499	0.602	0.631	0.711	0.568
SST2	0.596	0.640	0.636	0.721	0.554
SST3	0.573	0.668	0.663	0.752	0.656
SST4	0.597	0.606	0.680	0.784	0.610
SST5	0.510	0.595	0.682	0.752	0.677
SST6	0.522	0.552	0.596	0.707	0.602
SST7	0.543	0.528	0.655	0.680	0.598
SST8	0.589	0.595	0.643	0.754	0.604
SST9	0.566	0.637	0.607	0.783	0.653
SST10	0.567	0.713	0.707	0.824	0.723
US1	0.619	0.675	0.684	0.675	0.814
US2	0.614	0.687	0.697	0.658	0.760
US3	0.630	0.688	0.723	0.687	0.803
US4	0.548	0.724	0.721	0.699	0.859
US5	0.494	0.585	0.621	0.653	0.808
US6	0.495	0.714	0.724	0.716	0.842

Table 18. Cronbach's Alpha and Composite Reliability Test Results

Variable	Cronbach's	Alpha	Composite Reliability
PU	0.891		0.913

Processed, 2022

forms is higher than the value of other variables. As a result, the study indicators show strong discriminant validity, indicating that they can adequately arrange their produced variables.

- Reliability Test
The Composite Reliability values above 0.70.

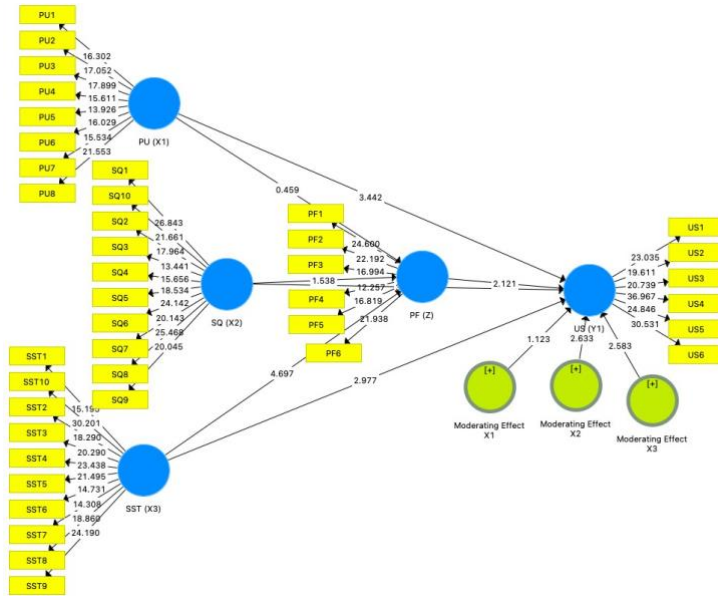
SQ	0.926	0.937
SST	0.912	0.927
US	0.898	0.922
PF	0.859	0.895

Source: Processed Data, 2022

Table 18 shows that the Cronbach's Alpha and Composite Reliability values for each variable are all over 0.70. As a result, all variables meet the assessment requirements and have been declared to have passed the reliability test.

- Inner Model Test

Figure 3. Outer Model Path Diagram



Source: Processed Data, 2022

Table 19. Inner Model Results

Test	Variable	Value	Assessment Criteria
R-Square	User Satisfaction (Y1)	0.819	Strong Predictive
	Personal Finance (Z)	0.566	Medium Predictive

F-Square	User Satisfaction (Y1) Personal Finance (Z)	0.041	Strong Predictive
Q-Square	User Satisfaction (Y1) Personal Finance (Z)	0.529 0.314	Strong Predictive Strong Predictive

Source: Processed Data, 2022

• **Hypothesis Testing**

Table 20. Output Path Coefficient

No.	Hypothesis	Original Sample	T Statistics (O/STDEV)	P Values	Description
1.	Perceived Usefulness -> User Satisfaction	0.352	3.442	0.001	Accepted
2.	Service Quality -> User Satisfaction	0.307	3.063	0.002	Accepted
3.	Quality of Self-S Technology -> User Satisfaction	0.225	2.997	0.003	Accepted
4.	Personal Finance -> User Satisfaction	0.133	2.121	0.034	Accepted

Source: Processed Data, 2022

- **First Hypothesis Test (H₁)**
The output path coefficient shows that the p-value is 0.001 less than 0.05, state positive result, thus **the first hypothesis (H₁) is accepted.**
- **Second Hypothesis Test (H₂)**
The output path coefficient shows that the p-value is 0.002 less than 0.05, state positive result, thus **the second hypothesis (H₂) is accepted.**
- **Third Hypothesis Test (H₃)**
The output path coefficient shows that the p-value is 0.003 less than 0.05, state positive result, thus **the third hypothesis (H₃) is accepted.**
- **Forth Hypothesis Test (H₄)**
The output path coefficient shows that the p-value is 0.034 less than 0.05, state positive result, thus **the fourth hypothesis (H₄) is accepted.**

Mediation Effect Test

First Model

Table 21. The First Model of Mediation Effect Test

No.	Hypothesis	Original Sample	T Statistics (O/STDEV)	P Values	Description
1.	Perceived Usefulness -> User Satisfaction	0.352	3.442	0.001	Accepted
2.	Service Quality -> User	0.307	3.063	0.002	Accepted



Satisfaction

3. Quality of Self-Service Technology -> User Satisfaction	0.225	2.997	0.002
Accepted			

Source: Processed Data, 2022

b. Second Model

Table 22. The Second Model of Mediation Effect Test

No.	Hypothesis	Original Sample	T Statistics (O/STDEV)	P Values	Description
1.	Perceived Usefulness -> Personal Finance	0.049	0.459	0.646	Rejected
2.	Service Quality -> Personal Finance	0.181	1.538	0.125	Rejected
3.	Quality of Self-Service Technology -> Personal Finance	0.548	4.697	0.000	Acceptable

Source: Processed Data, 2022

c. Third Model

Table 23. The Third Model of Mediation Effect Test

No.	Hypothesis	Original Sample	T Statistics (O/STDEV)	P Values	Description
1.	Perceived Usefulness -> User Satisfaction -> Personal Finance	0.113	1.091	0.276	Rejected
2.	Service Quality -> User Satisfaction -> Personal Finance	-0.257	2.444	0.015	Acceptable
3.	Quality of Self-Service Technology -> User Satisfaction -> Personal Finance	0.200	2.496	0.013	Acceptable

Source: Processed Data, 2022

According to the mediation effect test, personal finance can mediate the effect of perceived usefulness, service quality, and quality of Self-Service Technology on user satisfaction. In particular, the outcome of the mediation test



shows that there is one path that is not statistically significant but does not mean that all are not statistically significant. The null hypothesis can be rejected if the estimated F value does not exceed the critical F value obtained. If two of the three mediation pathways

are accepted, the hypothesis is accepted (Gujarati, 2009). It can be concluded that **the fifth hypothesis (H₅) is accepted with a different mediating effect on the perceived usefulness variable.**

C. Discussion

- **The Effect of Perceived Usefulness on User Satisfaction**

The results of this study's testing of the first hypothesis (H1), perceived usefulness positively affects user satisfaction. According to the findings of this study, users of mobile banking during the Covid-19 pandemic accept the overall system benefits and effectiveness as perceived relative advantages. This study's findings align with Ashsifa (2020) research; perceived usefulness positively impacts customer satisfaction and indicates continuous use. The results of Inayah et al., (2018), perceived usefulness positively affects attitudes to using m-banking.

- **The Effect of Service Quality on User Satisfaction**

The results of this study's testing of the second hypothesis (H2), service quality positively affects user satisfaction. According to the findings of this study, the quality of mobile banking application services meets or exceed user expectations during the Covid-19 pandemic, which can satisfy customers' needs. This study's findings align with Nawangsari & Widiastuti (2018), service quality affects customer satisfaction due to the quality of services provided to fulfill or satisfy consumer needs.

- **The Effect of Quality of Self-Service Technology on User Satisfaction**

The results of this study's testing of the third hypothesis (H3) show that quality of Self-Service Technology positively affects user satisfaction. According to the findings of this study, during the Covid-19, pandemic customers perceived the SST service function in the mobile banking application as allowing them to assist themselves with their financial transaction activities without the assistance of bank employees. The ease of use and access affect user satisfaction. This study's findings align with Wicaksono (2015) research; Self-Service Technology significantly impacts customer satisfaction due to its convenience and frequency of use. De Leon et al., (2020) found that the quality of SST service has a positive and significant effect on customer satisfaction in the mobile banking application.

- **The Effect of Personal Finance on User Satisfaction**

The results of this study's testing of the fourth hypothesis (H4), personal finance positively affects user satisfaction. According to the findings of this study, users make good use of and accept mobile banking applications as tools to assist with personal financial activities. This study's findings align with Priantinah et al., (2019), which

found that the benefits of mobile application technology for personal financial management are acceptable to users.

- **The Effect of Personal Finance in Mediating the Effect of Perceived Usefulness, Service Quality, and Quality of Self-Service Technology on User Satisfaction**

The results of this study's testing of the fifth hypothesis (H₅), personal finance can mediate the effect of perceived usefulness, service quality, quality of Self-Service Technology on user satisfaction. According to the findings of this study, a person's decision to properly utilize and accept a mobile banking application as an application that supports personal financial management activities can occur. If prior features of advantages, service quality, and the quality of Self-Service Technology can affect user satisfaction. In this study, the attitude of acceptance of technology is aimed at the satisfaction of users of the mobile banking application which is measured using determinants such as perceived usefulness, service quality, and quality of Self-Service Technology.

- **Conclusion And Implication**

- **Conclusion**

Based on the results of research and discussions that have been carried out, the conclusion is obtained: (1) Perceived usefulness positively affects user satisfaction of mobile banking applications during the Covid-19 pandemic in South Tangerang City. (2) Service quality positively affects user satisfaction of mobile banking applications during the Covid-19 pandemic in South Tangerang City. (3) Quality of Self-Service Technology positively affects user satisfaction of mobile banking applications during the Covid-19 pandemic in South Tangerang City. (4) Personal finance positively affects user satisfaction of mobile banking applications during the Covid-19 pandemic in South Tangerang City. (5) Personal finance can mediate the effect of perceived usefulness, service quality, quality of Self-Service Technology on the satisfaction of mobile banking application users during the Covid-19 pandemic.

- **Implication**

- This study can be utilized as a reference source for future research related to the factors that influence a person's satisfaction with mobile banking applications through personal finance.
- The banking sector as a service provider must implement the right strategy for improving banking services to be even better and generate innovations from the mobile banking system in the future.
Considering aspects including usefulness, service quality, quality of Self-Service
- Technology from mobile banking services that can be well received by customers as a form of satisfaction and may support customer personal finance activities.

- **Limitation and Research Suggestion**

The limitations of this study are the research was conducted online via Google Forms when the Covid-19 pandemic was ongoing, thus limiting the scope for research to assist with questionnaires in order to ensure that respondents fill out the questionnaire accurately and understand the statements made.



Based on the limitations of this study, suggestions for further research it is expected to all respondents will receive questionnaire assistance to minimize misunderstandings when filling out the questionnaire. In addition, in future research, the sample might be expanded by including additional variables to determine the characteristics that influence customer satisfaction in mobile banking-based services through personal finance.

REFERENCES

- Amin, S., Tripathi, A., Kansana, K., & Malik, J. (2019). Understanding Self-Service Technologies INTRODUCTION TO SERVICES. *Management in Practice*, 136–145.
- Antonio, G. C., Intan, R., Adipranata, R., Informatika, P. S., Industri, F. T., Petra, U. K., & Surabaya, J. S. (2021). Pengelolaan Keuangan Pribadi yang Interaktif Berbasis Android. *Jurnal Infra*, 9(2).
- Arcand, M., PromTep, S., Brun, I., & Rajaobelina, L. (2017). Mobile banking service quality and customer relationships. *International Journal of Bank Marketing*, 35(7). <https://doi.org/10.1108/IJBM-10-2015-0150>
- Ashsifa, I. (2020). Pengaruh Technology Acceptance Model (Tam) Terhadap Kepuasan Pelanggan Dan Niat Penggunaan Mobile Banking Secara Berkelanjutan (Privasi Dan Personalisasi Sebagai Variabel Moderasi). *TECHNOBIZ Journal*, 3(1), 25–29.
- Azisyah, D. A. (2016). PENGARUH SELF SERVICE TECHNOLOGY, KUALITAS LAYANAN, HUBUNGAN PEMASARAN TERHADAP KEPUASAN DAN LOYALITAS NASABAH PADA BANK BNI DI SURABAYA. *Manajemen Perbankan*, 66, 37–39.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, 13(3). <https://doi.org/10.2307/249008>
- De Leon, M. V., Atienza, R. P., & Susilo, D. (2020). Influence of self-service technology (SST) service quality dimensions as a second-order factor on perceived value and customer satisfaction in a mobile banking application. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1794241>
- Fernando, E., Surjandy, S., Meyliana, M., Wijadja, H. A., Hidayat, D., Kusumaningtyas, A. W., & Heryatno, R. (2020). Factors influencing the intention to use technology services to implement self-service technology case study: Situation pandemic Covid-19. *Advances in Science, Technology and Engineering Systems*, 5(5). <https://doi.org/10.25046/AJ050542>
- Hair, J., Black, W., Barry, J., Anderson, R., & Tatham, R. (2006). Multivariate data analysis. Pearson. Prentice hall. *Upper Saddle River*.

- Hosseini, Mirza and Fatemifar, Azadeh and Rahimzadeh, Masoumeh, (February 2015), Effective Factors of the Adoption of Mobile Banking Services by Customers, VOL - 4, DOI 10.12816/0018964, *Kuwait Chapter of Arabian Journal of Business and Management Review*.
- Inayah, N., Agriyanto, R., & Warno, W. (2018). The Role of Spirituality in the Behavior of Sharia Bank Mobile Banking: Evidence from Indonesia. *Walisongo: Jurnal Penelitian Sosial Keagamaan*, 26(1), 197. <https://doi.org/10.21580/ws.26.1.2611>
- Kotler, P., & Keller, K. L. (2016). *Marketing Mangement*. In *Pearson Edition Limited*.
- Latan, H., & Ghozali, I. (2015). Partial Least Saquares Konsep , Teknik dan Aplikasi Menggunakan Program SmartPLS 3.0 Untuk Penelitian Empiris :Universitas Diponegoro. *Universitas Diponegoro*.
- Lin, J. S. C., & Hsieh, P. L. (2011). Assessing the Self-service Technology Encounters: Development and Validation of SSTQUAL Scale. *Journal of Retailing*, 87(2). <https://doi.org/10.1016/j.jretai.2011.02.006>
- Nawangsari, S., & Widiastuti, R. (2018). Analisis Pengaruh Kualitas Layanan, Kepercayaan Dan Layanan Mobile Banking Terhadap Kepuasan Nasabah Bank (Studi Kasus Pada Pt Bank Dki – Depok). *Sebatik*, 22(2), 51–55. <https://doi.org/10.46984/sebatik.v22i2.307>
- Priantinah, D., Aisyah, M. N., & Nurim, Y. (2019). *The Analysis of Technology Acceptance Model (TAM) For Personal Financial Management On Mobile Application Technology*. January. <https://doi.org/10.2991/icobame-18.2019.56>
- Qian, W. X. (2019). *Faculty of Business Determinants and Consequences of the Use of DigitalFinance Platform for Personal Financial Management in Rural China*. April.
- Romney, M. B., Steinbart, P. J., Summers, S. L., & Wood, D. A. (2021). Accounting Information Systems. In *Education and Linguistics Research* (15 ed.). Pearson Education. <https://doi.org/10.5296/elr.v4i2.14045>
- Saal, M., Starnes, S., & Rehmann, T. (2017). Digital Financial Services: Challenges and Opportunities for Emerging Market Banks. *Digital Financial Services: Challenges and Opportunities for Emerging Market Banks*, 42. <https://doi.org/10.1596/30368>
- Setiawan, H. (2016). PENGARUH KUALITAS LAYANAN, PERSEPSI NILAI DAN KEPERCAYAAN TERHADAP KEPUASAN DAN LOYALITAS PENGGUNA LAYANAN MOBILE BANKING. *Jurnal Keuangan dan Perbankan*, 20(3), 518–528.
- Skagerlund, K., Lind, T., Strömbäck, C., Tinghög, G., & Västfjäll, D. (2018). Financial literacy and the role of numeracy—How individuals’ attitude and affinity with numbers influence

financial literacy. *Journal of Behavioral and Experimental Economics* , 74.
<https://doi.org/10.1016/j.socec.2018.03.004>

Tam, C., & Oliveira, T. (2017). Literature review of mobile banking and individual performance.

In *International Journal of Bank Marketing* (Vol. 35, Nomor 7).
<https://doi.org/10.1108/IJBM-09-2015-0143>

Toor, A., Hunain, M., Hussain, T., Ali, S., & Shahid, A. (2016). The Impact of E-Banking on Customer Satisfaction: Evidence from Banking Sector of Pakistan. *Journal of Business Administration Research*, 5(2). <https://doi.org/10.5430/jbar.v5n2p27>

Warsono. (2010). Prinsip-Prinsip dan Praktik Keuangan Pribadi. *Jurnal Ekonomi dan Bisnis*, 13(2).

Wicaksono, B. (2015). PENGARUH SELF-SERVICE TECHNOLOGY TERHADAP KEPERCAYAAN, KEPUASAN NASABAH, DAN LOYALITAS NASABAH (Survei Pada Nasabah Pt. Bank Rakyat Indonesia (Persero) Tbk. Kantor Cabang Malang Kawi Kanwil Malang). *Jurnal Administrasi Bisnis S1 Universitas Brawijaya*, 25(2), 86168.

Wijayanti, D. E. A. dan A. T. dan D. (2021). Analisis Tingkat Kepuasan Nasabah Pengguna. *Banking & Management Review*, 2015, 1398–1409.