



## Research Article

# Mediating Effect of Customer Satisfaction on the Relationship Between Service Quality and Customer Loyalty on Mobile Banking Services in Lipa City, Philippines During the Pandemic

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### ABSTRACT

People's financial transaction behaviors have evolved as a result of the COVID-19 pandemic. In times of health crisis, bank clients are looking for safer alternatives to conduct banking activities, which has resulted in a significant shift to online channels. With the banking system happening rapidly, banks are struggling to keep up with evolving high customer expectations, making it more difficult for incumbents to stay current. The study investigated how five service quality dimensions (reliability, responsiveness, visibility, security and trust, and efficiency) affect customer satisfaction and determined the effect of customer satisfaction to customer loyalty of mobile banking services during a pandemic. The study used a quantitative approach using an online survey form. Data collected are from 132 mobile banking users residing in Lipa City, Batangas. The study went through pilot testing and was evaluated using simple linear regression analysis. Results revealed that customer satisfaction significantly affect all service quality dimensions presented. In addition, there is a significant and positive effect of customer satisfaction on customer loyalty during the COVID-19 situation. It is likely that this analysis will help Philippine banks make better decisions about where to focus their mobile banking efforts. In the future, the ability to contact with the bank without visiting physical offices through mobile banking services is expected to be a permanent trend. Furthermore, even after the pandemic is over, non-users of mobile banking applications may be persuaded to try out the services, and fewer people may visit actual banks.

### INTRODUCTION

#### A. Background of the Study

Major obstacles in business operations, particularly in financial transactions, have been uncovered in the face of the COVID-19 pandemic (Sumadi, 2020). Despite the risks of infection, banks continue to operate to serve the country's financial needs. The pandemic has provided banks with an opportunity to re-evaluate their client relationships, and come up with some innovative solutions to sustain firm continuity (E.Ke-tema, Y.Selassie, 2020). Although transformation to

digitalization was already on its way, another notch was taken through the pandemic. It has accelerated the effort to convert money transactions to digital format and has changed the rules of the game, particularly with regard to customer service. Still, a large number of Filipinos either lack a bank account or have not completely embraced online banking services (Lopez, 2020).

According to the most recent statistics released by the Philippine Deposit Insurance Corporation or





PDIC as of December 31, 2021, Lipa City ranked third among CALABARZON cities, and first in Batangas with the largest amount of bank deposits, after Calamba and Antipolo. The Bangko Sentral ng Pilipinas (BSP), the Philippine central bank, is urging banks to innovate in order to promote the use of digital financial systems. Customers may want to look into mobile banking services, which allow them to pay bills, make purchases, and conduct financial transfers and remittances using only their mobile phones. Banking in the hands of customers is a distinct possibility, given that research conducted in January 2020 revealed that 75.66 million Filipinos used mobile phones and 63 million used the internet. Customers needed new methods to avoid the health risks of stepping out in public after the rapid start of the COVID-19 global pandemic. Banks, on the other hand, took a number of steps to prevent the virus's spread, as even bank employees were infected as a result of their profession. The possibility to avoid having to visit the branch physically was the key driver for people to get introduced and forced to learn mobile banking.

As the banking sector have their share of negative effect from COVID-19 crisis, mobile banking can help banks cut costs (Peevers, et. Al., 2008). This technology will aid in the continuity of banks in the country, allowing them to concentrate on strengthening deep sustained relationships with customers. However, it is critical to investigate consumer satisfaction and service quality in mobile banking in these times of catastrophe. Studies examining the quality of mobile banking services and their implications on customer satisfaction and loyalty have been found to be inadequate should a pandemic occur;

Thus, the study has the following objectives:

1. To identify the service quality dimensions in terms reliability, responsiveness, visibility, security and trust, and efficiency of mobile banking during the COVID-19 pandemic situation;
2. To provide an overview of customer satisfaction during the COVID-19 pandemic situation;
3. To describe customer loyalty during the COVID-19 pandemic situation;
4. To determine the effect of mobile banking service quality dimensions on customer satisfaction during the COVID-19 pandemic situation; and
5. To evaluate the effect of customer satisfaction on customer loyalty during the COVID-19 pandemic situation.

Baicu et. al, (2020) stated that the health and well-being of both bank staffs and clients must be prioritized, especially during times of health crisis. To acquaint customers with the use of digital channels, banks should increase their efforts to give financial education courses and online tutorials. In times of pandemic, bank advertising of less contact transaction products and services, such as mobile banking, will benefit the society. Bank customers will opt to stay at home and limit their exposure to the public, lowering their risks of contracting the virus.

Service quality and customer satisfaction of mobile banking in Lipa City, Philippines during the pandemic is a significant concern for banks in the Philippines. It's not just about taking urgent action, the bank's medium- to long-term strategies need to be revised as well. The results of this study can aid in the



decision-making of banks in terms of improvement and creating larger adoption in mobile banking services. The research findings will be presented in the form of a thesis to the general public. Mobile banking could contribute to a healthier world due to public limitations on physical visits to banks for financial reasons.

### *B. Review of Related Literature*

1. **Service Quality Dimensions:** According to BSP, volume of transactions in Filipinos using online channels such as the internet and mobile banking platforms significantly increased during the COVID-19 pandemic. This is owing to mobility restrictions enforced by the government in several sections of the Philippines, including Metro Manila and the entire province of Luzon. While the banking sector is also affected as a result of this unforeseen circumstance, it also has opportunity to improve its products and services for its customers. Authors Jun, M., and Palacios, S. (2016) mentioned that one of the most significant things to examine in assessing the success of mobile banking service providers is the service quality it gives to clients. Banks that design services with respect for their customers' requirements and wishes, while staying current with technology, can acquire a competitive advantage over their competitors. Monitoring and meeting the demands may help solidify the relationship with the customers. Bala, et al. (2021) provided different dimensions of mobile banking services that can create a comprehensive service quality management system to

address the challenges of providing high-quality mobile banking consumer services.

2. **Reliability:** Customer reliability, according to Yang and Fang (2004), is defined as the accuracy of quotations, order fulfillment, billing, record keeping, and commission calculation that continues to give clients with positive treatment. It simply refers to the capacity to provide clients with the service that was promised (Hossain and Hossain, 2015). Customers in various parts of the world have turned to mobile banking for its reliability and its promise of banking services regardless of the customers whereabouts.
3. **Responsiveness:** According to the empirical results from Kant & Jaiswal (2017), "responsiveness" was the most important factor of customer satisfaction on Indian banking that led to the recommendation in redesigning services for the next generation. Customer experience, in terms of the eagerness of bank personnel to assist clients, is how responsiveness is defined according to Lau, et al. (2013). Along with simplicity of use, convenience, privacy, and reliability, Khan (2010) stated that responsiveness is one of the primary elements of banking service quality. To sustain service quality and excellent customer connections, service provider companies must make responsiveness a standard (Bauer et al., 2006; Long & McMillon, 2004). Banks aiding clients in using mobile banking systems is one option to satisfy immediate demands during health crises. This way, people can focus on their own health and well-being (Bensley, et.al., 2020).



4. **Visibility:** In Bangladesh, it was discovered that service physicality and satisfaction were positively correlated (Islam, et al., 2021). Visibility refers to anything that has to do with how things appear. It usually relates to how well a product or service performs or how well it is used (Mersha et al., 2012). In private banking services, visibility has a positive effect on customer satisfaction, according to Islam et al., 2021. In order to better understand client needs, bank services must be made more visible. It can also persuade more people to use its goods and services.
5. **Security and Trust:** When it comes to mobile banking, risks cannot be avoided because users' information is easily accessible and exposed (Merhi, Hone & Tarhini, 2019). Due to concerns about illegal transactions, scams, and fraud, and the importance of privacy and secrecy have been emphasized. In banks, security has become increasingly important as the use of mobile technology has grown (Javabdeh & Ahmad, 2014). In fact, among the most significant barriers to consumers accepting mobile banking is security (Sun et al., 2017; Kuisma et al., 2007). According to research conducted in Lebanon, users in that country were the ones who were most worried about security (Arabnet Business Intelligence, 2016). Trust, on the other hand, is a key component that influences risk and uncertainty. It was highlighted in Wichittakul's (2018) study as something that connects to clients' trust in the mobile banking system's service provider. According to Chiu, et.al (2017), non-users of mobile banking claimed that the factors leading up to initial trust had a big influence on the decision to use online banking services. Similarly, despite the lack of face-to-face or personal encounters, trust was found to be necessary for effective transaction completion (Chuchuen, 2016). Furthermore, it was discovered that security and trust have a considerable impact on positive word-of-mouth, resulting in increased customer satisfaction (Javabdeh & Ahmad, 2014).
6. **Efficiency:** According to Patwardhan and Pandey's (2021) study, efficiency is described as to how organizations implement and adopt technology in terms of the interface's appearance, search options, and collaborative capabilities. Customers have found mobile banking to be highly useful even before the pandemic because they believe virtual use of the system or application increases the experience more effectively (Baicu et al., 2020). Furthermore, efficiency, according to Sagib and Zapan (2014), was one of the factors that had a significant impact on customer satisfaction. Even while the situation continues, banking efficiency continues to serve its function of ensuring economic growth and customer confidence (Dissanayake & Wu, 2021). Further, Tam and Oliveira (2017) expressed that customer can use mobile banking to not only make regular transactions easier, but also to receive additional products and services from the bank more rapidly.
7. **Customer Satisfaction:** Customer satisfaction is a marketing word that describes how well



a company's products or services satisfy its consumers' expectations. It is one of the most important criteria in assuring a company's success because the company's future growth is determined by it (Balachnadrán et al., 2018). When a customer found a bank that can get things done for them, it is a measure of customer satisfaction and it evaluates how well products or services matched expectations. As a result, it is easier to anticipate revenue and business growth (Szyndlar, 2021). According to Ningsih and Segorohe, emotional reaction and attitude after a purchase transaction can be the basis of satisfaction. It refers to a customer's satisfaction with a product or service. Customers prefer to obtain a product or service from the comfort of their own homes in a pandemic crisis, making it extremely difficult for any business to respond. According to Cheshin (2018) and his associates, customer satisfaction has become a critical component of service-oriented businesses such as banks. Customer satisfaction can be difficult to achieve during pandemics since people are more concerned about so many things. Customers expect outstanding levels of service even though financial transactions are in great demand. Furthermore, evaluating the quality of mobile banking services and determining user satisfaction with mobile banking are critical. This research can be used to improve the country's mobile banking quality (Lovell & Wirtz, 2007).

8. **Customer Loyalty:** According to a study in Bangladesh, loyalty in mobile banking is

strongly influenced by customer satisfaction (Jahan, and Shahria, 2022). Client loyalty is considered as a significant aspect in attaining a competitive advantage over competitors in today's dynamic and challenging economy (Leninkumar, 2017). Marketing scholars have conceptualized customer loyalty in a variety of ways (Ali et al., 2016). As per Casidy and Wymer (2016), the attachment of a customer to the products or services of a business makes customers more loyal than repeat transactions. Oliver, on the other hand, defines customer loyalty as a deeply held decision to purchase or re-patronize a preferred product or service in the future. This results to repeated same-brand or same-brand-set purchases, given the potential of switching behavior based on situational influences and marketing efforts. This concept of client loyalty has been accepted by various marketing scholars, according to a review of the literature (Haryanto et al. 2016). Referring to a study conducted by Leninkumar (2017), loyalty and customer trust have a significant positive connection. Those who are unwilling to trust a bank are unlikely to remain loyal in a competitive market.

9. **Mobile Banking:** According to writers Uwala-ka and Peace (2020), mobile banking is a service given by a bank that allows consumers to access their banking information, conduct financial transactions, transfer funds, and pay off debts without having to visit the bank branch where the account is held. As electronic banking systems begin to deliver automated



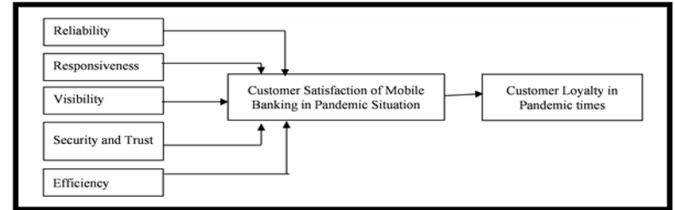
banking services that work smoothly via wireless networks, mobile banking has radically transformed the way users conduct banking transactions. It has the capacity to change the general business atmosphere and types of businesses in the banking and financial sector (Uwalaka & Peace, 2020). As a result, mobile banking is one of the most popular banking services, and it has helped to reduce crowding during pandemics. Many clients, however, are still hesitant to use current mobile banking services due to concerns about reliability, responsiveness, visibility, security and trust, and efficiency. The key question now is whether mobile banking has enhanced customer satisfaction and banking service quality.

Mobile banking can facilitate bank transactions by allowing clients to access financial services from anywhere and anytime they want. Customer service and satisfaction can be greatly influenced by technology. However, while a mobile platform's quantity of features or functionalities adds significantly to customer happiness, this does not guarantee that a consumer will be content with the service (Uwalaka & Eze, 2020). Despite the fact that there had been 518 banks in the Philippines as of September 2021, service quality is very important in the fierce competition. It's a feature that can help the bank stand out from the crowd (Farooq, et al., 2018; Namukasa, 2013; Ong & Tan, 2010).

### C. Research Framework

Figure 1 shows the effect of reliability, responsiveness, visibility, security and trust, and efficiency on customer satisfaction among mobile banking cus-

customers in Bangladesh's rural areas during the COVID-19 scenarios, as well as the impact of customer satisfaction on customer loyalty.



**Figure 1. Conceptual framework**

*Source: Service Quality and Customer Satisfaction of Mobile Banking during COVID-19 Lockdown;*

The study was conducted to the rural Bangladeshi population's use of mobile banking services during the COVID crisis. According to the findings, among the five service quality criteria that influence customer satisfaction and loyalty in this pandemic condition are reliability, responsiveness, and efficiency. As a result, Bangladesh's mobile banking industries have given their employees the attention they need, and trained them in ways that would enable them to meet the needs of consumers in rural areas. During this pandemic condition, every mobile banking organization will implement these factors to meet the customer's expectations for the company's development. In COVID-19 scenarios, reliability was found to be the most important factor in determining customer satisfaction with mobile banking. Mobile banking providers should focus on delivering trustworthy services to consumers so that they may do their mobile banking transactions safely. The variables of visibility, security, and trust have insufficient impacts on consumer satisfaction, resulting in customer loyalty. The researcher's aim with this study is to see if the same pattern can be seen in the country's banking industry.

The previous study, which took place in Bangla-



desh in 2021, now took place in Lipa City, Batangas, Philippines. This study was anchored on the same framework to measure the mobile banking service quality characteristics in the Philippines, specifically in the Lipa City, Batangas area.

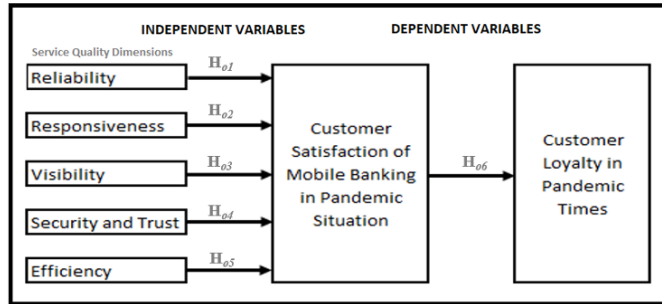


Figure 2. Operational framework

The results of the study intended to provide solutions to the hesitance of usage of the Filipinos to adapt to the mobile banking services. This can serve as a guide for the banking industry to facilitate changes in preparation for worse situations such as health crisis where the public are restricted from going outside. To address the need of the study, the following hypotheses were tested:

H<sub>01</sub>: The Reliability SERVQUAL dimensions has no significant effect on CUSTOMER SATISFACTION.

H<sub>02</sub>: The Responsiveness SERVQUAL dimensions has no significant effect on CUSTOMER SATISFACTION.

H<sub>03</sub>: The Visibility SERVQUAL dimensions has no significant effect on CUSTOMER SATISFACTION.

H<sub>04</sub>: The Security and Trust SERVQUAL dimensions has no significant effect on CUSTOMER SATISFACTION.

H<sub>05</sub>: The Efficiency SERVQUAL dimensions has no significant effect on CUSTOMER SATISFACTION.

H<sub>06</sub>: The CUSTOMER SATISFACTION has no significant effect on CUSTOMER LOYALTY.

### MATERIALS AND METHODS

The study used a quantitative research design. A non-probability technique in the form of purposive sampling was also used to target the population of bank account holders of universal or commercial banks in the Philippines, who are using mobile banking applications. A structured online survey questionnaire on 5-likert scale was applied in response to the level of agreement to measure the perceptions of respondents in their mobile banking applications. The researcher adopted the instrument from authors Kanina, Sagib & Zapan and modified some questions in order to fit with the study. The instrument was divided into four parts including demographic information of respondents, five service quality dimensions (reliability, responsiveness, visibility, security and trust, and efficiency), customer satisfaction, and customer loyalty. A contemporary study's sample size should be at least five times the number of questionnaire items, according to Hair, et al. (2010). The minimal sample size for this study should be 130 because the instrument comprises 26 questions. The researcher distributed questionnaires to various mobile banking application users residing in the City of Lipa, Batangas, and was able to gather a total of 132 responses. A simple linear regression test was done to identify the effects of each service quality dimensions to customer satisfaction, and the latter to customer loyalty.

For a better understanding of the questionnaire, Table 1 shows the specifications of the questionnaires with question parts, variables, item number, and re-



response category.

**Table 1. Questionnaire Specifications**

Part	Variable	Item No.	Response Category
I	Reliability	1 to 4	1= Strongly Disagree 2=Disagree 3=Neither Agree or Disagree 4=Agree 5=Strongly Agree
II	Responsiveness	5 to 8	
III	Visibility	9 to 12	
IV	Security and Trust	13 to 15	
V	Efficiency	16 to 18	
VI	Customer Satisfaction	19 to 22	
VII	Customer Loyalty	23 to 26	

A pilot study in Lipa City, Batangas was used to assess the research instrument for reliability. Twenty-two (22) users of mobile banking provided information. Overall, the instrument passed with significant Cronbach’s alpha loadings. Cronbach’s alpha is a 0 to 1 reliability coefficient. George and Malory (2003) initially offered the following strategies, quoted by Goel and Srivastava (2016): a) >0.90 = excellent; b) 0.80-0.89 = good; c) 0.70-0.79 = acceptable; d) 0.60-0.69 = questionable; e) 0.50-0.59 = poor; and f) 0.50-0.59 = unacceptable. The following results indicated that the instrument is reliable.

**Table 2. Cronbach Alpha Findings**

Part	Variable	Cronbach Alpha
I	Reliability	.882
II	Responsiveness	.906
III	Visibility	.871
IV	Security and Trust	.957
V	Efficiency	.836
VI	Customer Satisfaction	.951
VII	Customer Loyalty	.938

SERVQUAL’s Likert scale was used, although it was lowered to five levels or measure points instead of seven, because as demonstrated in Table 3, it simplifies the completion of the questionnaire and aids in understanding the survey’s statistics.

**Table 3. Likert’s Scale for Interpretation**

LIKERT’s level	Meaning	Percentage range
1	Strongly Disagree	0-20
2	Disagree	20-40
3	Neither Agree or Disagree	40-60
4	Agree	60-80
5	Strongly Agree	80-100

## RESULTS AND DISCUSSION

This section contains the analyses performed with the data using the appropriate statistical tools and achieved the following outcomes.

### A. Profile of Respondents

According to the data gathered, 61.4% of respondents are female, 34.10% are between the ages of 34 and 41, 34.1% prefer the China Bank mobile banking app, and 47.0% have used the app for 1-3 years, indicating that the majority of the respondents are female, millennials, and new users of mobile banking services.

**Table 4. Respondents Demographic Characteristics**

Item	Details	Frequency N=132	%
Gender Identity	Male	51	38.6
	Female	81	61.4
Residence	Lipa City Resident	132	100.0
Age Group	18-25 yrs. Old	27	20.5
	26-33 yrs. Old	41	31.1
	34-41 yrs. Old	45	34.1
	Above 42 yrs. Old	19	14.4
Preferred Mobile Banking App	BDO	31	23.5
	BPI	31	23.5
	Metrobank	11	8.3
	PNB	1	0.8
	Security Bank	6	4.5
	Chinabank	45	34.1
	DBP	-	-
Others	7	5.3	
Years of Mobile Banking Usage	Less than 1 Year	13	9.8
	1-3 Years	62	47.0
	4-5 Years	25	18.9
	Above 5 Years	32	24.2

### B. Descriptive Statistics

Table 5 presents the measurement variables’ composite means and the indication of the data be-





ing spread out from the mean. Results showed that respondents have a high level of positive agreement on all variables (M= 3.91 to 4.09). It was also presented that efficiency, as depicted by M=4.09, S.D.=0.8464 and highly agreed by most respondents, has the highest mean and the smallest spread out. According to Patwardhan and Pandey (2021), the majority of respondents believe that the mobile banking applications they used were centered on how organizations adapt to technology as applied to the interface’s looks, search options, and collaborative capabilities. On the other hand, security and trust had the lowest mean and had the most spread-out data as implied by M=3.91, S.D. 0.8464, indicating that the respondents have a high level of perception that mobile banking has risks since consumers’ data tends to be easily accessible and were exposed when transacting online (Merhi, et al., 2019). In particular, it has the least agreement of feeling fully safe and secure when using mobile banking applications.

**Table 5. Descriptive Statistics**

Variable	Mean	Std. Deviation	Mean Interpretation
Efficiency	4.09	0.8464	Strongly Agree
Reliability	3.99	0.8093	Strongly Agree
Responsiveness	3.96	0.8469	Agree
Visibility	3.95	0.8731	Agree
Security and Trust	3.91	0.9015	Agree
<b>Service Quality</b>	<b>3.98</b>	<b>0.7886</b>	<b>Strongly Agree</b>

Respondents moderately agree that their mobile banking apps are reliable and on time when it comes to performing services in attending to their needs and accuracy of records (M=3.99, S.D. = 0.8093). In responsiveness, respondents feel that their banks attend to their needs timely. The highest mean was 4.10 (SD=0.8898), which was translated as “agree.” In terms of visibility, respondents strongly agreed that there is enough mobile banking service outlets in the

area and that physical appearance of layout of mobile banking is good for all their needed transactions with mean scores of 4.05 (S.D.=0.9560) and 4.08 (S.D.=0.9811), respectively. Security and trust had the lowest percentage interpretation agreement with 78.18% which gathered composite mean of 3.91 (S.D.=0.9015). On the other hand, perception on efficiency partake the highest mean with 4.09 (S.D.=0.8464) with all respondents strongly agreed in all questions representing a highly positive experience with participants of mobile banking users amongst the five given service quality dimensions. Overall, the general result of composite mean for service quality dimension was 3.98, with 79.60% percentage range which interprets those respondents are totally satisfied in terms of efficiency and reliability, and satisfied in terms of responsiveness, visibility, and security and trust on their mobile banking services during pandemic.

The results presented in Table 6 displayed that most respondents have high approval in their bank’s mobile banking services as portrayed by M=4.11, S.D.=0.8601. With all respondents strongly agreed in all the questions given, these banks can be considered successful in this field since the future growth of the company is determined by its client’s satisfaction (Balachnadran et.al, 2018).

**Table 6. Customer Satisfaction**

Variable	Mean	Std. Deviation	Mean Interpretation
Customer Satisfaction	4.11	0.8601	Strongly Agree

Competition among banks is at high in times of economic challenges (Leninkumar, 2017), that is why customer loyalty is given importance. Result in the perception on customer loyalty were taken as strongly



agreed by the respondents despite some of them revealed that the mobile banking app they are using is not their first choice. It shows convenience for clients to patronize and continue to use the same bank in the future as resulted with the highest rate. The outcome presented high attachments of clients to their banks during pandemic by  $M=4.03$  and  $S.D.=0.8688$ .

**Table 7. Customer Loyalty**

Variable	Mean	Std. Deviation	Mean Interpretation
Customer Loyalty	4.03	0.8688	Strongly Agree

### C. Regression Analysis

To figure out which service quality dimensions have significant effect on customer satisfaction, the researcher utilized a regression model. Customer satisfaction was the dependent variable, while the five service quality dimensions were the independent variables.

Table 8 presents the regression matrix showing reliability as a predictor variable of customer satisfaction. The  $R^2$  of 0.761 ( $F$ -value = 414.596,  $p$ -value < 0.05) indicates 76.1% of variance in customer satisfaction can be predicted by reliability. Results shows that customer satisfaction has positive and significant effects on reliability ( $\beta = 0.927$ ,  $t$ -value = 20.362,  $p$ -value < 0.05). This shows that Filipino users of mobile banking applications are considering the accuracy of the system and its fulfillment of customers' requests as Yang & Fang (2004) explained the term reliability.

**Table 8. Effect of Reliability on Customer Satisfaction**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation
		B	Std. Error	Beta			
1	(Constant)	0.41	0.185		2.21	0.029	Significant
	Reliability	0.927	0.046	0.873	20.362	0.000	
		F-value=414.596			p-value=.000		

$R^2 = .761$   
a. Dependent Variable: Customer Satisfaction

Table 9 shows the effect of responsiveness on customer satisfaction. Responsiveness significantly effects customer satisfaction ( $\beta = 0.877$ ,  $t$ -value = 19.513,  $p$ -value < 0.05).  $H_02$  is therefore rejected. As per the regression analysis, responsiveness is responsible for approximately 74.5% of customer satisfaction' co variance ( $R^2 = .745$   $F=380.738$   $p$ -value < 0.05). This means that responsiveness in pandemic situation should be stressed in order to be resilient in business.

**Table 9. Effect of Responsiveness on Customer Satisfaction**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation
		B	Std. Error	Beta			
1	(Constant)	0.639	0.182		3.515	0.001	Significant
	Responsiveness	0.877	0.045	0.863	19.513	0.000	
		F-value=380.738			p-value=.000		

$R^2 = .745$   
a. Dependent Variable: Customer Satisfaction

Customer satisfaction was found to be significantly predicted by visibility as shown in Table 10 ( $\beta = 0.838$ ,  $t$ -value = 18.44,  $p$ -value < 0.05). A 1-unit increase in visibility result to a .838 increase in customer satisfaction and were statistically significant at  $p$ -value < 0.05. Therefore, when visibility is improved, customer service of banks is likely to improve as well. Thus, rejecting  $H_03$ . Similarly in Bangladesh, it identified the connection between visibility and customer satisfaction.

**Table 10. Effect of Visibility on Customer Satisfaction**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation
		B	Std. Error	Beta			
1	(Constant)	0.798	0.184		4.337	0.000	Significant
	Visibility	0.838	0.045	0.851	18.44	0.000	
		F-value=340.049			p-value=.000		

$R^2 = .723$   
a. Dependent Variable: Customer Satisfaction

Table 11 revealed the effect of security and trust on customer satisfaction of mobile banking during pandemic. It exposed that 63.1% of customer satisfaction can be attributed to changes in security and trust ( $R^2 = .631$   $F$ -value=222.092  $p$ -value=.000) confirmatory of



the study of Chiu, et. Al (2017) that the choice to use online banking services was significantly influenced by trust.

Table 11. Effect of Security and Trust on Customer Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation
		B	Std. Error	Beta			
1	(Constant)	1.15	0.204		5.637	0.000	
1	Security And Trust	0.758	0.051	0.794	14.903	0.000	Significant
		R <sup>2</sup> = .631		F-value=222.092	p-value=.000		

a. Dependent Variable: Customer Satisfaction

From the finding in Table 12, efficiency positive-ly affect customer satisfaction ( $\beta = 0.856$ , t-value = 17.85, p-value < 0.05). This explains that respondents are continuously using mobile banking services because of its efficiency. Moreover, the advanced system contributed to its usefulness as stated in the study of Baicu, et. al (2020).

Table 12. Effect of Efficiency on Customer Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation
		B	Std. Error	Beta			
1	(Constant)	0.606	0.201		3.023	0.003	
1	Efficiency	0.856	0.048	0.843	17.85	0.000	Significant
		R <sup>2</sup> = .71		F-value=318.626	p-value=.000		

a. Dependent Variable: Customer Satisfaction

Table 13 presents the significant and positive effect of customer satisfaction on customer loyalty during the COVID-19 situation with R2 = .714, F-value = 325.193, and p-value = .000. This indicates that respondents that are pleased and exceeded expectations with the mobile banking services were likely to repeat their financial transactions with the same bank. They had no regrets from using the services and noted that will continue to use the same bank mobile banking applications and will recommend it to friends who needed the same services. This implies another confirmation of Kaur & Soch (2018) and Jahan and Shahria (2022) studies that customer satisfaction influences to the enhancement of customer loyalty.

Table 13. Effect of Customer Satisfaction in Customer Loyalty

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation	
	B	Std. Error	Beta				
1	(Constant)	.520	.199		2.615	0.10	
1	Customer Satisfaction	.854	.047	.845	18.033	0.000	Significant
		R <sup>2</sup> = .714		F-value=318.626	p-value=.000		

a. Dependent Variable: CustomerLoyalty

## CONCLUSION AND RECOMMENDATIONS

This study determined if the independent variables service quality dimensions (reliability, responsiveness, visibility, security and trust, and efficiency) have a significant effect on the dependent variables (customer satisfaction and customer loyalty) in a pandemic situation. Moreover, it aimed to determine the effect of customer satisfaction with customer loyalty in the mobile banking services in pandemic situations. The results of the study achieved the following:

The findings revealed that during the Covid-19 pandemic, reliability, responsiveness, visibility, security, and trust, and efficiency are all important determinants of mobile banking service quality. All dimensions of service quality presented have significant effects on customer satisfaction during the COVID-19 situation. Hence, the study rejected all the hypotheses assumed from H<sub>01</sub> to H<sub>05</sub>.

Furthermore, under pandemic scenarios, customer satisfaction was proven to have a substantial effect on consumer loyalty in mobile banking services. As a result, the study rejected H<sub>06</sub>.

In general, the five service quality aspects of reliability, visibility, and efficiency have considerable effects on customer satisfaction, which leads to customer loyalty in the COVID-19 pandemic condition.





Mobile banking in times of health crisis is a necessity to make purchases and do other financial transactions in the comfort of their own home.

While the outcomes of the study exposed respondents totally satisfied in terms of efficiency and reliability, it is recommended that the banking industry to keep pace with technical advancements relevant to mobile banking services. Since new developments are continually emerging, it is also important to stay accurate to retain a positive influence on customer satisfaction.

It was also proven that responsiveness, visibility, and security and trust significantly affect customer satisfaction on their mobile banking services during pandemic. Hence, a more responsive, better visibility, and safer facilities are required to strengthen mobile banking services in the country. It is therefore recommended that banks provide more functionality to their applications that will intensify responsiveness of the bank and trust and confidence in mobile banking services. Communication is vital to a crisis management framework to facilitate collaboration and coordination. Also, crisis management frameworks must have the flexibility to respond to a range of conditions as well as to have appropriate answers to different sorts of crises. Because of this, adding a virtual assistant feature in the mobile application is highly suggested. A more intensive biometric authentication can be developed to improve security and trust of customers in mobile banking services. Although respondents of this study were totally satisfied in their current mobile banking applications, building strong customer relationships should be consistent in order to maintain

competitiveness in the new economy.

This study presented that all variables are substantial enough for bank organizations to continue its mobile banking services. To remain relevant and effective, it is recommended to improve account opening processes in the future by adding automatic registration to their mobile banking app, particularly for commercial and universal banks in the Philippines. Through this, clients will no longer have the option to enroll but will be automatically have access to mobile banking services once they opened an account. It will prepare customers to use the platform, particularly in situations where physically visiting the bank is not possible such pandemic situations.

The study's social innovation fundamental and Social Development Goal (SDG) 3: good health and well-being will be targeted. The implementation of the recommended automation of enrollment in mobile banking services of its banks will ensure healthy living essential to sustainable development of the country. This progress may increase life expectancy as the use of mobile banking remotely from public during pandemic will stop the spread of infections. The situation today is different because we are facing a crisis that is related to health issues. Thus, the automatic enrollment in mobile banking applications may also assist the serving bank in strengthening their contact with their customers, especially in the new normal setup. Making financial services widely available will enable Filipinos to not only meet their current needs, but also to expand and raise their level of living.

This study was conducted within the city of Lipa,



Batangas and its findings may not apply all over the country. Future researchers may explore in other places in the Philippines to further understand the financial journey through the mobile banking services. In addition, they may conduct more aspects of service quality to test customer satisfaction and loyalty of mobile banking during a pandemic, as this study only covered five service quality dimensions.

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