

# Impact Of Covid-19 On Trust, Security And Privacy Of Khyber Pakhtunkhwa Mobile Banking App Users

Dr. Adeel Rahim<sup>1</sup>, Dr. Rabia Ishrat<sup>2</sup>, Zill-I-Jannat<sup>3</sup>, Muhammad Imran Khan Afridi<sup>4</sup>

<sup>1</sup>Lecturer-Finance, Deptt: of Management Sciences, FATA University. [adeel.rahim@fu.edu.pk](mailto:adeel.rahim@fu.edu.pk)

<sup>2</sup>Assistant Professor, Deptt of Management Sciences, SBBWU, [dr.rabiaishrat@sbbwu.edu.pk](mailto:dr.rabiaishrat@sbbwu.edu.pk)

<sup>3</sup>PhD Scholar, Deptt of Management Sciences, Sarhad University of Science & IT, Peshawar, [afриди99\\_fwbl@yahoo.com](mailto:afриди99_fwbl@yahoo.com)

<sup>4</sup>BBA-Finance, FATA University/

## Abstract

In this study researcher analyzed Covid-19 impact of trust, security, and privacy on mobile banking app user in Pakistan in 2021. The researcher collected data from Khyber Pakhtunkhwa (KP) and newly merged districts of KP Pakistan and employed stratified sampling technique. Primary data was collected through Quantitative method using questionnaire survey technique and then it was analyzed through SPSS latest software and different statistical tests will be run. They found Covid-19 impact of trust & security on mobile banking app user in KP and newly merged districts of KP is influenced by successful Banking transactions or not by looking in account the customers' awareness, education, communication, and advertisements of mobile banking service. Our analysis concludes that the degree of Mobile banking app user in KP and newly merged districts of KP, Trust and customer, security & privacy has a strong relationship in banking sector. Mobile banking app user in KP and newly merged districts of KP and customer Trust has positive relationship with customer security & privacy. Our questionnaire items show that customer who are highly motivated and strongly agreed to Trust give high security & privacy level. The research items shows that majority of the customer were in strongly agreement that's customer used Trust, account for such tools, pay bills purchase item's and maintain their transaction. Hence, Mobile banking app user in KP and newly merged districts of KPs must security & privacy to attain the banking sector, boost customer's Trust to perform their transaction better and enhance security & privacy with their satisfaction.

**Keywords:** Khyber Pakhtunkhwa (KP), Mobile banking app users, newly merged districts of KP, Trust, security, and privacy.

## Introduction

Forrester studies said that the number of humans who can use internet 219 million internationally and 1.5 million users is use mobile that is greater then for three times and the amount of that internet user. More of humans the availability of internet mobile used for online banking. Mobile banking apps is one of the easy ways for the mobile user, which can push or move forward the

information of a customer account, which is the easy way to check your account balance, account statement or share funds transfer, bill payment and check additional information about in our accounts etc. Mobile banking apps are interconnecting through databases of the banks. Database is the responsive term of a security. Customers have trust to use the mobile banking apps to make any trisection of fund or money. Security is the main purposed for a Mobile

banking app user in KP and newly merged districts of KP to used mobile banking apps. When our loss customer Owen mobile phone so there is no guarantee of safety to using that mobile banking verification mechanism. For example, if someone stores the password in that mobile phone so then unknown person can easily use the customer account (Abadir et. al, 2017).

Due to the digital technology customer have use and take the Biometrics finger technology, which is secure and reducing uncertainty. Biometrics finger verification mechanism is the identification of physical individuality and uniqueness of that certified person. Verification can be works PIN cod, password and user I. D etc. the fingerprint mechanism is part of biometric system. The value of biometric is that the utilizing of an account used in certified person and account will be secure .Telecommunication industry commonly used this finger print mechanism .security is the concerned way of making payment(Afandi et al, 2016).

When a customer loses their mobile handset, the other person connotes using their information. If fingerprint mechanism technology introduce in mobile handset the mobile banking apps will secure and reduce the risk using unknown person. Mobile banking apps perform is a good way for using or accessing biometric through E-commerce, banking account or other transaction. Electronic banking has end up a principal phenomenon presently with inside the technological improvement as its miles facilitated via way of means of the usage of net and online centers in project banking activities. Its significance has these days elevated as it has enabled the banks in diverse elements all around the globe to beautify enterprise transactions and sell carrier quality, as clients are capable of carry out transactions past borders and expediently the usage of their financial institution bills of their domestic countries (Afshan et al, 2016).

This provider has facilitated upgrades in banking offerings on clients provided, to such volume that there is right expertise at the offerings through clients to make use of the opportunities. Electronic banking has unfolded in diverse elements of the world, because the running entities have resorted to the inclusion of the services, for the reason of making sure that clients are served in a way that guarantees performance and effectiveness in banking services. This has fostered the inclusion of digital banking offerings' clients in lots of regions of the world, together with the growing international locations in regions with inadequate economic entities, running with inside the economies and the marketplace at large. The offerings were protected and made smooth to apply to decorate purchaser wishes promotion. The troubles that have been notion before the inclusion of the offerings were queues and site visitor's jams with inside the banks' bodily premises that have been inflicting excessive congestions and distorted provider quality, with many clients discouraged to carry out transactions the use of the banks because of such inconveniences. In addition to that, the focal point has been at the promoting of Self-Service Technologies (SSTS) at the clients closer to financial institution offerings intake for that matter (Adwan et al, 2019).

Another gain is that with the aid of using supplying the net banking will lead humans to come to be clients of the financial institution. According to the dictionary of laptop and facts generation Mobile Banking (M-Banking) manner banking centers via mobile communiqué, which includes handphone. Dengan provision of centers much like ATM however to take the cash in cash. With the M-Banking, the banks attempted to facilitate get entry to its clients in accomplishing there with M-Banking provider, clients of banks that have already got the provider actually did now no longer want to visit the ATM or Bank office (Farah et al, 2018).

Covid-19 brought about a shift in the direction of digitisation in Pakistan. And the development become throughout the board as every of its 4 additives greater than doubled: interbank fund transfers surged 162pc 12 months-on-12 months to Rs320.2 billion in July-September, interbank 264pc to Rs426.9bn, software payments 214pc to Rs34.2bn and miscellaneous bills 206pc to Rs127. 5bn. On the turn aspect, the proportion of e-trade in standard e-banking hasn't published any worth development. It become simply 0.06pc within side the present-day length instead of 0.02pc within side the first area of 2016-17 — a boom of most effective 4 foundation factors in a same wide variety of years. This is despite a huge leap within side the deliver aspect as proxies with the aid of using the wide variety of traders registered with banks. Their wide variety soared with the aid of using 53.5pc to 2,164 within side the length beneath Neath review, from 1,410 12 months ago. Another important extrude is the developing proportion of debit playing cards in point-of-sale transactions in comparison to credit, which has receded a few grounds. The former rose to occupy 54.18pc of the overall POS cost within side the first area of the modern monetary 12 months from 48.67pc within side the corresponding length closing 12 months whilst the latter fell to 45.2pc, from 50. 82pc. The record additionally gives a few different thrilling

numbers. For example, 3,857 pos machines had been introduced in July-September over the previous area. Or those ATM-most effective playing cards were on a regular decline, falling with the aid of using greater than one million because the first area of 2019-20. One factor appears apparent: the SBP is turning into proactive in pushing the digitisation reforms, be it via easing policies with the aid of using removing E-paperwork for small e-trade exports or consulting with the enterprise or publishing strategies. Even about publishing records, there seems to be a few attempts in bringing greater transparency into the present system. However, what's extraordinarily ordinary is that the applicable authors/communications branch officers of the primary financial institution don't locate it worth in their time to interact with the media or at the least solution questions. And thoughts you, there are lots of them, which include at the consistency (or lack thereof) of sure records factors throughout one of a kind SBP documents. For example, there may be a huge mismatch within side the e-trade spend via digital/e-banking channels in successive reviews posted with the aid of using the primary financial institution. Attempts to apprehend the method and their assumptions at the back of the figures have to this point been futile (Zhao et al, 2020).

### Conceptual Framework

#### Independent variables

**Mobile  
banking app  
user in KP  
and newly  
merged**



#### Dependent variable

**Trust  
  
Security &  
privacy**

Figure 1 Conceptual Framework

Pakistan ready for mobile banking last week, said on a convention in Pakistan prepared through the Asian Development Bank (and wherein I performed a small role) to catalyze mobile telecom and smartphone banking in that country. The predominant banks all confirmed up and heard the banking regulator inform them to get with the program. Later that equal week, the Pakistan Minister of Information Technology, Awais Ahmed Khan Leghari, introduced the equal message to the telecom regulator and all of the predominant mobile telecom and smartphone providers, with the Governor of the State Bank in attendance. In effect, each the banking enterprise and the mobile telecom and smartphone enterprise, and their regulators, are being instructed to put off limitations and broaden attainable systems, in order that the large unbanked populace of the country (wherein mobile telecom and smartphone use is spreading rapidly) can benefit. The authorities introduced a coordinating committee to facilitate this, in addition to an everlasting consciousness institution among the IT ministry and the State Bank, in addition to a dedication to bolster IT/telecom infrastructure. Announcements don't continually translate into action. But Pakistan is transferring with astounding pace to reduce purple tape and hyperlink the banking and telecom industries in methods that would have a first-rate effect on commerce, for small groups and everyday individuals. In Southeast Asia, the Bridge Alliance of 7 predominant mobile providers is likewise coordinating technical requirements to facilitate cross-border mobile telecom and smartphone banking. In the Philippines, the Smart and Globe mobile providers now every have hundreds of thousands of clients for his or her competing mobile monetary offerings models. These and different tendencies propose that Asia is growing lots of momentum, and will end up the release pad for genuinely big scale get admission to monetary

offerings for low profits populations (<https://nextbillion.net> > Pakistan-ready-for-mobile-banking)

### **Problem Statement**

Security & privacy is the primary problem for Mobile banking app user in KP and newly merged districts of KP to use in conducting financial transactions through mobile in banking industry of Pakistan so to solve this issue researcher will carry this study.

### **Research Objectives:**

To find out Covid-19 impact of trust & security on mobile banking app users in Pakistani Banking industry in KP and newly merged districts of KP.

### **Research Methodology**

The current study follows quantitative research method because it can quantify the results obtained from sample. Data was analysed statically in quantitative research and the results can also be generalized to a large population. The total population of this research study was Mobile banking app user in time cost constraint the data cannot be collected from KP and newly merged districts of KP. By using stratified sampling technique, two areas were selected according to their using mobile banking apps. Researcher used Kragic & Morgan technique (1970) and the researcher have selected 233 respondents.

### **Data Analysis and Discussion**

This researcher study checked the effect of Mobile banking app user in KP and newly merged districts of KP on the trust, security & privacy as well as the individual dependent variable and independent variable in this research study for data analysis statistical software known as statistical package for the social sciences (SPSS) version 20 was used. Correlation, and descriptive statistic and regression test were run to get results on relationship of the

variables. For the descriptive analysis SPSS (statistical package) version 20 or simply Microsoft excel 2010 will be used. For finding out the correlation between the Mobile banking, app user in KP and newly merged districts of KP (independent variable) and security & privacy and Trust (dependent variable) Pearson correlation

coefficient will be used. For the analysis of the differences in customer, security & privacy based on the personal characteristics ANOVA will be used which is used to measure the significant differences between the variances. Details of analysis are as under:

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Mobile banking app user in KP and newly merged districts of KP	233	3	5	3.48	.695
Security & privacy	233	2.33	5	3.1	.58
Trust	233	2.8	4.8	3.47	.42

Explanation: this table shows that out of 233 respondents, mean of independent variable Mobile banking app user in KP and newly merged districts

of KP, (3.48) mean of dependent variable Trust is (3.467); and customer security & privacy is (3.15) respectively.

Table 2 Correlations

	Security & privacy	Mobile banking app user in KP and newly merged districts of KP	Trust
Security & privacy	1		
Mobile banking app user in KP and newly merged districts of KP	0.012	1	
Trust	.362**	.248**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 3 Model Summary

Model	R	R square	Adjusted R square	Std. Error of the estimate
1	.012	0	-0.004	0.58

Predictors: (constant), Mobile banking app user in KP and newly merged districts of KP

Table 2 shows that the Mobile banking app user in KP and newly merged districts of KPis (0.248). There is positive correlation (0.362) between customer, Trust and customer security & privacy which is also significant at (0.00) level. Therefore, we accept this hypothesis. As given withinside the

above look at result, the cost of r square .000, which states that there's a extrude of 0% in based variable because of the impact of the unbiased variable. It additionally suggests that handiest 0% adjustments came about with the reality of defined variable and the relaxation because of unexplained variable.

Table 4 ANOVA

	<b>Model</b>	<b>Sum of squares</b>	<b>Df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
	Regression	.011	1	.011	.033	.856 <sup>b</sup>
1	Residual	78.860	231	.341		
	Total	78.872	232			

A. Dependent variable: security & privacy

B. Predictors: (constant), Mobile banking app user in KP and newly merged districts of KP

As given withinside the above ANOVA desk which indicates that whether or not the version is in shape or not. The importance cost for ANOVA is much

less than 5%; right here the values got here out as significant (.856).

Table 5 Coefficients

<b>Model</b>	<b>Unstandardized coefficients</b>		<b>Standardized coefficients</b>	<b>T</b>	<b>Sig.</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
(constant)	3.123	.196		15.95	.000
Mobile banking app user in KP and newly merged districts of KP	.010	.055	.012	.182	.856

A. Dependent variable: security & privacy

Here withinside the coefficient desk the unstandardized beta might be taking in consideration. Here the beta is 02%, which indicates that 1 % alternate comes withinside the patron security, & privateness it'll results in 02%

alternate withinside the patron, security & privateness, the beta is effective which states that the connection is effective and for this reason we are able to take delivery of the speculation of this study.

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	.248 <sup>a</sup>	.062	.058	.4095

A. Predictors: (constant), Mobile banking app user in KP and newly merged districts of KP

As given in the above test result, the value of R square .062, which states that there is a change of 06% in dependent variable because of the

independent variable. It also shows that only 06% changes occurred with the fact of explained variable and the rest due to unexplained variable.

Table 7 ANOVA

Model		Sum of squares	Df	Mean square	F	Sig.
	Regression	2.547	1	2.547	15.190	.000 <sup>b</sup>
1	Residual	38.729	231	.168		
	Total	41.276	232			

A. Dependent variable: Trust

B. Predictors: (constant), Mobile banking app user in KP and newly merged districts of KP

As given in the above ANOVA table which shows that whether the model is fit or not. The

significance value for ANOVA is less than 5%; here the values came out as significant (.000).

Table 8 Coefficients

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Error	Beta		
(constant)	2.942	.137		21.444	.000
Mobile banking app user in KP and newly merged districts of KP	.151	.039	.248	3.897	.000

A. Dependent variable: Trust

Here in the coefficient table the unstandardized beta value would be taking in consideration. Here the value of beta is 24% which shows that 1 % change comes in the Trust, customer it will leads to

24% change in the customer, security & privacy, the value of beta is positive which states that the relationship is positive and thus we will accept the hypothesis of this study.

## Findings and Discussion:

The current analysis concludes that the degree of Mobile banking app user in KP and newly merged districts of KP and found trust and customer, security & privacy has a strong relationship in banking sector. Mobile banking app user in KP and newly merged districts of KP and customer Trust has positive relationship with customer security & privacy. Our questionnaire items show that customer who is highly motivated and strongly agreed to Trust give high security & privacy level. The research items shows that majority of the customer were in strongly agreement that's customer used Trust, account for such tools, pay bills purchase item has and maintain their transaction. Hence, Mobile banking app user in KP and newly merged districts of KPs must security & privacy to attain the banking sector, boost customer's Trust to perform their transaction better and enhance security & privacy with their satisfaction.

## Conclusion

This study will assess the implementation of mobile banking towards customer use in mobile app. The research well based on one specific objective: To find impact of trust & security on mobile banking app. In this thesis, researcher introduced and validated design method for mobile banking apps using to improve security & privacy, Mobile banking app user in KP and newly merged districts of KP and ease of access. Our analysis concludes that the degree of Mobile banking app user in KP and newly merged districts of KP, Trust and customer, security & privacy has a strong relationship in banking sector. Mobile banking app user in KP and newly merged districts of KP and customer Trust has positive relationship with customer security & privacy. Our questionnaire items show that customer who are highly motivated and strongly agreed to Trust give high security & privacy level. The research items shows that majority of the customer were in strongly agreement that's customer used Trust, account for

such tools, pay bills purchase item's and maintain their transaction. Hence, Mobile banking app user in KP and newly merged districts of KPs must security & privacy to attain the banking sector, boost customer's Trust to perform their transaction better and enhance security & privacy with their satisfaction.

## Future Avenues

This research can be done in other parts of the World and if this unique fingerprint tool may be progressed to offer the capabilities, which allows powerful announcement with every other tool like ATM machines, shopping, price tag booking, and financial institution transactions and additionally for person identification. As a destiny work, it's been deliberate to enforce the cloud generation in financial institution sector. This guarantees stable authentication thereby growing the financial institution sales and lowering the networking problems, which stand up especially because of congestion and unauthenticated sessions. Further look at within side the encryption strategies that may be used at the side of this machine will growth safety in cell banking to an extra extent. Integration of different biometric mechanisms at the side of this machine may also be finished with a few studies in phrases of cost, effectiveness and feasibility may growth the safety with the aid of using folds.

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