Study on the Usage of Mobile Banking Application during COVID-19 Pandemic

Akhil B Nair

Student (Bachelor of Commerce), Department of Commerce and Management, Amrita Vishwa Vidyapeetham, Amritapuri, India.

Keerthana S Prabhu

Student (Bachelor of Commerce), Department of Commerce and Management, Amrita Vishwa Vidyapeetham, Amritapuri, India.

B.R. Aditya

Student (Bachelor of Commerce), Department of Commerce and Management, Amrita Vishwa Vidyapeetham, Amritapuri, India.

C.V. Durgalashmi

Assistant Professor, Department of Commerce and Management, Amrita Vishwa Vidyapeetham, Amritapuri, India.

A. Sivadasa Prabhu

Professor, Retired from Fergusson College, Pune, India.

Abstract

COVID-19 outbreak has brought a global challenge in economy. It has affected badly on the financial sector all over the world. It created fear in the minds of people to use liquid cash and thus, has led to the adoption of mobile banking services. This study was conducted by collecting responses from the employed and student population from various parts of Kerala, who use mobile banking services. Primary data have been collected from 268 responses through a structured questionnaire prepared using Google forms. Percentage analysis with frequency distribution is used to summarize and infer the data along with pie charts. Chi-square test have been used to analyze the data using Microsoft Excel sheet to test the developed hypothesis and derive conclusions. It is concluded that mobile banking application have created a good impact during this pandemic to safeguard the lives and complete transactions at their fingertips without visiting banks physically.

Keywords

Mobile Banking, Bank, Application, Network, Service, Digital, COVID-19.

Introduction

Covid-19 is a viral infection and it first originated in China and later got spread Globally. It is a great challenge to safeguard human life. In order to limit the spread of virus, the Government issued various norms and lockdowns, thereby people were made to stay indoors and also follow social distancing. This pandemic has created depreciation in the value of currencies all over and hence mobile banking application have helped us in moving forward from this crisis. (Anju Mohan 2019) With the development of technologies, the banks have changed their functioning structure, their relationship with the customers, work strategies, working environment. Mobile banking services helped people to do transactions at fingertips hence saving time and life in the present situation.

In contrast to traditional banking activities, online banking provides more features and functionalities at a lower cost. (R. Anand 2020) The utilization of mobile apps has been constantly increasing because of the supply of large sort of smartphones. Online banking and mobile apps of financial entities allow users to enjoy many advantages such as they can access their account from any location at any time and this has become a boon to us to do our financial transactions during this unprecedented times of the Covid-19 pandemic and it also helps us to follow the social distancing order issued without going to banks directly. (Parvathy Devi Antharjanam, 2020) Because of Covid-19 the economy has witnessed slow growth financially and many banks which are financially not doing great is being merged with stronger banks, but this merger haven't affected the mobile banking users adversely since the banks have done the mergers and acquisitions with ease.

According to health recommendations, one of the most effective ways to contain the current Covid-19 epidemic is to avoid personal contact. In line with these indications, most banks in the affected countries have reduced the opening hours of their branches and they recommend that their customers use mobile banking services more now. Thus, it has a vital role in today's world. One can also enjoy permanent access to all financial information in real time basis. Some banks have also tried to promote mobile banking by showing tutorials and expanding the type of transactions that customers can carry out remotely. (Nandana Gopal R, Akshaya VS and A 2020) The banking service when digitalized have proven to be useful in many ways by accessing our account information through these banking applications.

Covid-19 is badly affecting the Global financial as the spread is increasing at a rapid pace. So, it is an alarm to accept mobile banking services. This present study is made by accepting responses from people using mobile banking services residing in various parts.

To examine the impact of Covid-19 on mobile banking and other online payment services and to learn the advantages and disadvantages of these services are the main objectives of this study. Structured questionnaire has been used with the help of google forms to collect the data.

Review of Literature

(Vidya Jha, Prem Nair, Dipu TS 2020) The authors believe that identification of both active infections and past infections along with compliance to social distancing can decelerate the spread of the virus. It will serve effective strategy and re – strengthen Indian economy.

(Devadevan 2013) Technology plays an important role in banking sector. India is the second largest telecom market in the world which is having potential for expanding banking services using mobile. The study identifies the mindset and analyze the security issues in mobile banking among the banking customers in India. To create awareness among the existing customers and provide special benefits for using mobile phone, this will automatically increase the adoption of Mobile Banking in mass. (Vidya Jha, Dinesh TA 2020). The Covid-19 pandemic is going to inevitably spread in future, so we need manufacturers of Personal Protective Equipment (PPE) and mask with an intact supply chain to distribute it to every hospital in India and by also maintaining social distancing also. (Fenu, G., & Pau 2015) The study was conducted on various banking applications made available by Italian banks and they are compared with mobile web platforms on the basis of user interface, performance, optimization etc. When the study was found and compared, it was found that mobile banking apps have more feature, better user interface and optimization compared with mobile web platforms. (Aboelmaged, M., & Gebba 2013). The study was conducted on students and their opinion on the TAM and TPB models. It was found that more variables are to be included in both TAM and TPB for a proper conclusion on the same. It also leaves a biased opinion as only students are included in this study, so further research in various sectors can be done. In short, the study conceptualized the idea of integrating both TAM and TPB for better results.

(Mohan, L., & Potnis 2015) This paper studies about how mobile banking is implemented in unbanked poor people who don't own phones. They have found many facts and have categorized. It was found that many among the huge population India had was not included in working sector and had to depend on debts for survival. Its also found that there are many marketing opportunities for mobile banking applications in developing countries. Door step banking has been found effective because its less time consuming

compared with visiting a bank branch to do transactions. A study on the agents sent for collection of funds was also done, and it was perceived that females are better than male in various factors. They also study the potential of the collection agents and innovations that can be bought in this service.

(Goyal, V., U.S.Pandey, & Batra 2012) A forum to address challenges in mobile banking sector had been formed in the name Mobile Payment Forum of India in collaboration with Institute for Development and Research in Banking Technology (IDRBT), Rural Technology Business Incubator (RTBI) and IIT Madras. They along with various business sectors have formed committees to improve the same. Many challenges were there then, but they had the hope for bringing out new innovations and strategies to overcome the challenges present.

(Gunaseelan, S., & Kesavan 2020) They observed that Covid-19 had impacted the economy greatly in a bad manner and it has created a recession in the world economy. Impact of Covid-19 on various sectors are clearly identified. They focus mainly on International trade, inconsistency in gold market, stock market conditions, industrial progress, agricultural (Girish, V., & Manu 2020) produce and so on.

(Rajesh Singh 2020) They studied on how the spread of Corona virus is associated with the age and social contact structure. They focused on the social distancing measures initiated by the Government, lockdown effects on pandemic, etc. It was found that mortality rate increased especially in elderly people. They examined the data from three countries i.e. India, China and Italy. A mathematical model was presented to showcase these effects.

(Girish, V., & Manu 2020) The study has found out that mobile banking application plays a significant role in reducing social spread by having all the required banking services at fingertips. It is known that consumers in India and many other parts of the world still follow the traditional banking system and is less bothered about mobile banking. It was also found that mobile banking users also have increased during the lockdown tenure.

Objectives of the Study

To examine the impact of Covid-19 pandemic on digital banking applications.
1. To know how beneficial mobile banking services are during this pandemic.
2. To study the brief scenario of the current state of mobile banking applications in our society.
3. To study its advantages and disadvantages among people during such a situation.

4. To inspect how the digitalized banking applications served the remote people during this pandemic.

Scope of the Study

The study looks how beneficial online banking have been during Covid-19 pandemic, how the people utilized it and to what extent. The study is conducted between the students and employees. This study was conducted at Kerala. To know how it helps them during this situation. This study was done during the period spanning from April 2020 to June 2020.

Limitations of the Study

The study is based on online banking application during the pandemic. In this study primary data are collected from 268 respondents by mode of online questionnaire. In which it was divided among the employed and students from which 89% of them are using mobile banking. The main strategy is to find out how the mobile banking application is helpful to people during this phase.

Research Methodology

This study was primarily focused on knowing the impact of mobile banking application on services provided to people during this pandemic. The data for this study was collected from the responses that we got by sharing the structured questionnaire among the people residing in various districts of Kerala and we got 268 responses. Simple Random Sampling Technique has been used for collecting the primary data.

Hypothesis Testing

The data was analyzed using MS Excel sheet. Chi-Square test is used as the statistical tool to analyze certain hypothesis. We also did percentage analysis for summarizing the primary data. The following Hypothesis was formulated:-

H_0: There is no dependency between status of individuals and usage of mobile banking application.
H_1: There is dependency between status of individuals and usage of mobile banking application.
H_0: There is no dependency between status of individuals and factors that led to the use of mobile banking application.

H_2: There is dependency between status of individuals and factors that led to the use of mobile banking application.

H_0: There is no dependency between services and ease of use.

H_3: There is dependency between services provided by banking and ease of use.

H_0: There is no dependency between quality of services offered & the availability of network connectivity.

H_4: There is a dependency between quality of services offered & the availability of network connectivity.

Data Inference

The data collected in the questionnaire have been coded and inferred by the team as follow:
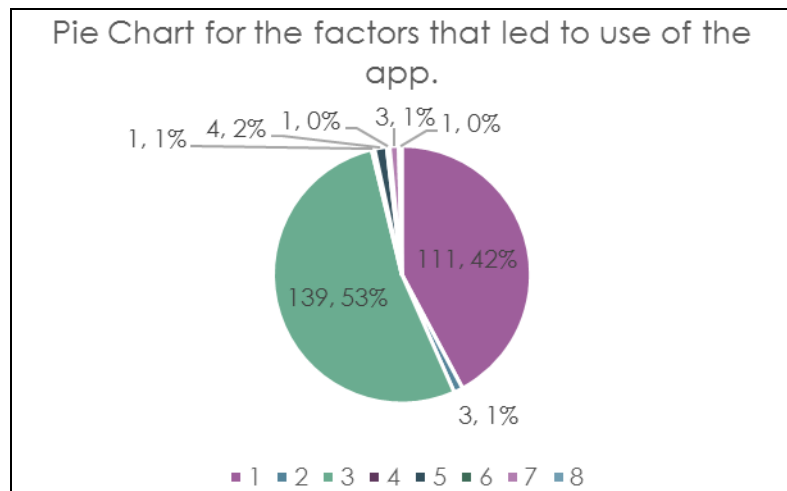
[In the above chart, 1 denotes Time saving, 2 denotes Cost saving, 3 denotes Both 1&2, 4 denotes Neither, 5 denotes Not using, 6 denotes Practical Reasons, 7 denotes Lockdown, 8 denotes Ease of use.]

**Figure 1 Factors that led to use of app among respondents**

From the above figure (1) we can see a majority i.e. 53% have responded that both time and cost saving are factors that led them to use mobile banking application compared with 42% who have chosen only time saving as a factor and remaining 1% to 2% have selected lockdown, ease of use and practical reasons as factor for the same.
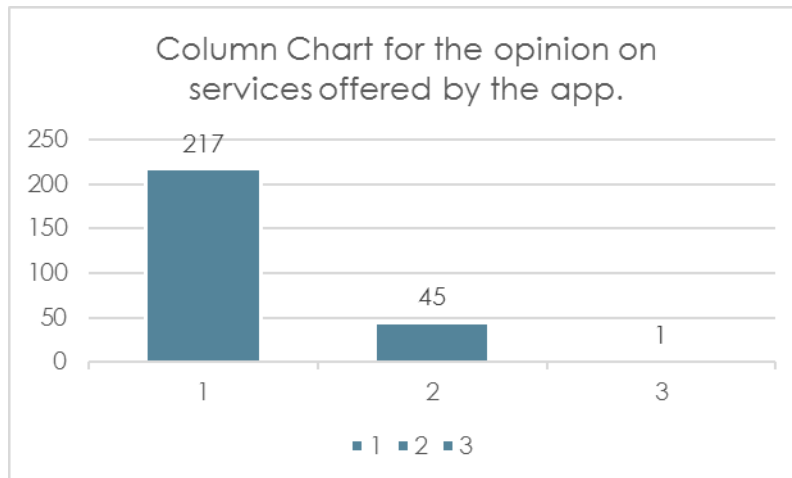
[In the above chart, 1 denotes Good, 2 denotes Average & 3 denotes Poor.]
Figure 2 Opinion on services provided by the app to respondents

From the above figure (2) we could infer that 83% of respondents have a good opinion about the services offered by mobile banking application compared to respondents who have opted for average and poor which are only 45% & below 1% of the sample.
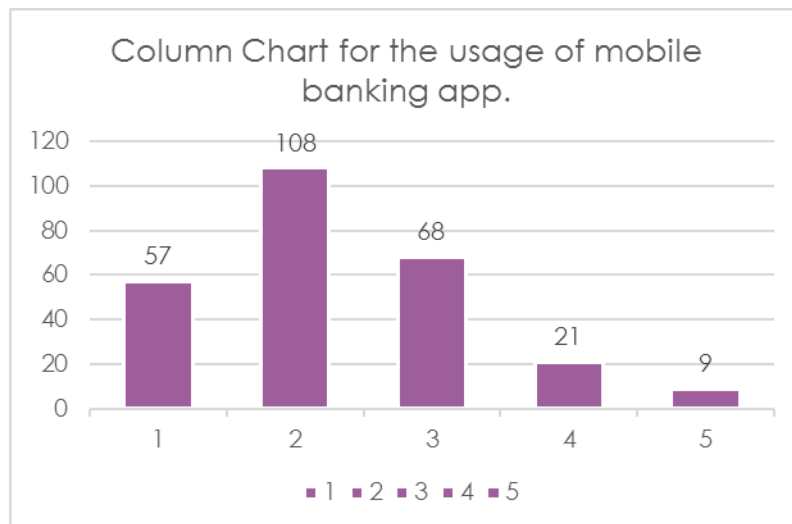
[In the above chart, 1 denotes Daily, 2 denotes Once in a week, 3 denotes Once or twice a month, 4 denotes None and 5 denotes As per need.]
**Figure 3 Usage of Mobile Banking app by respondents**

From the above figure (3) we could infer is that 41% of respondents use it once in a week which is a significant difference compared with 22% of respondents use it daily, 26% use it once or twice a month, 3% who use it as per need and remaining 8% who doesn't use it at all.
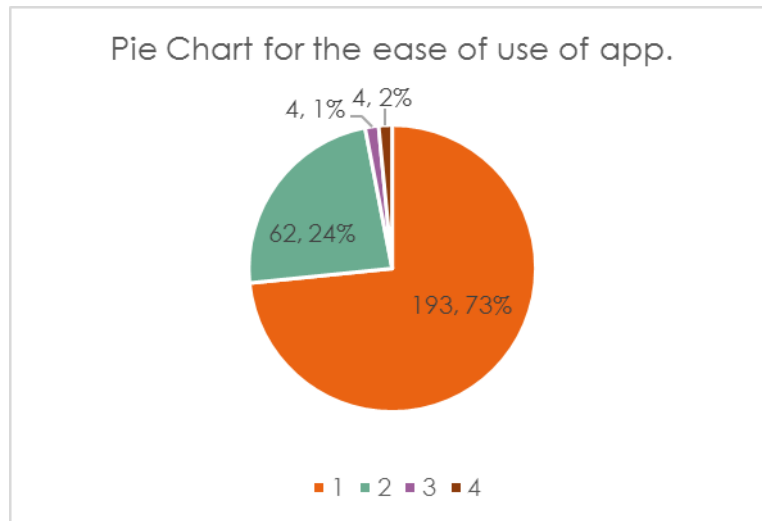
[In the above chart, 1 denotes Easy, 2 denotes Moderate, 3 denotes Hard & 4 denotes None.]
Figure 4 Ease of Use of the app by the Respondents

From the above figure (4) we can infer that 73% among the total respondents finds it easy to use mobile banking application compared with 24% of respondents who finds it moderate, 1% of respondents who finds it hard to use. The remaining 2% of the respondents doesn't use it at all.
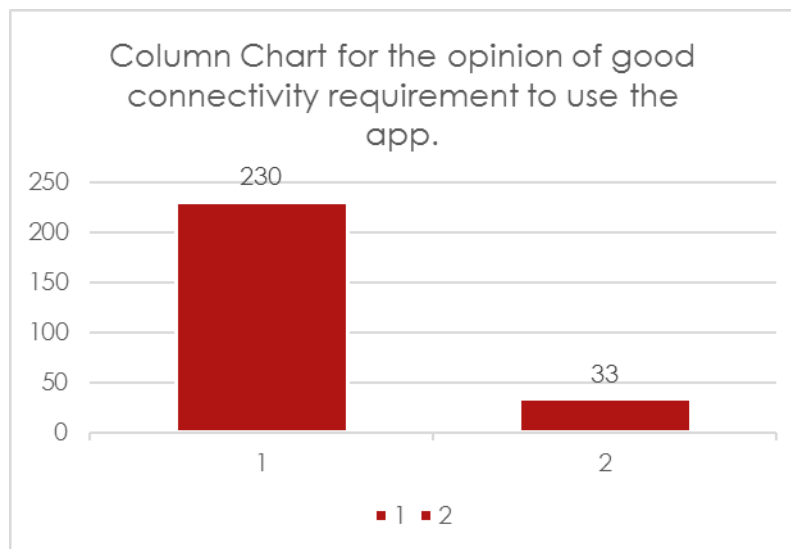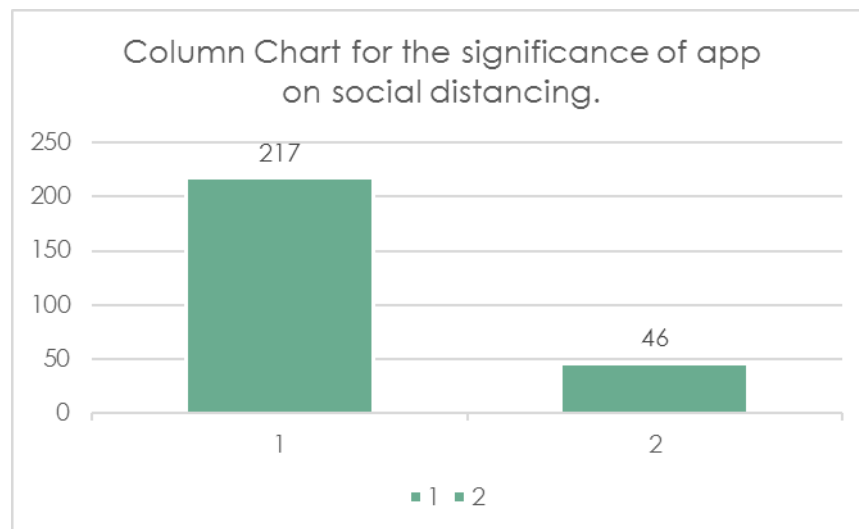

[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 5 Good Connectivity requirement to use app, opinion by respondents

From the above figure (5), we can understand that there is a significant difference between respondents who say good network is needed i.e. 87% compared with 13% of the respondents who say it does not need good network connectivity. Thus, maximum number

of respondents agrees that good network connectivity is essential for the app to run successfully.

[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 6 Significance of mobile banking app in social distancing to respondents

From the above figure (6) we can infer that 83% of the respondents have responded positively to this question compared to the remaining 17% of the respondents who states that these applications haven't played any significance in social distancing.
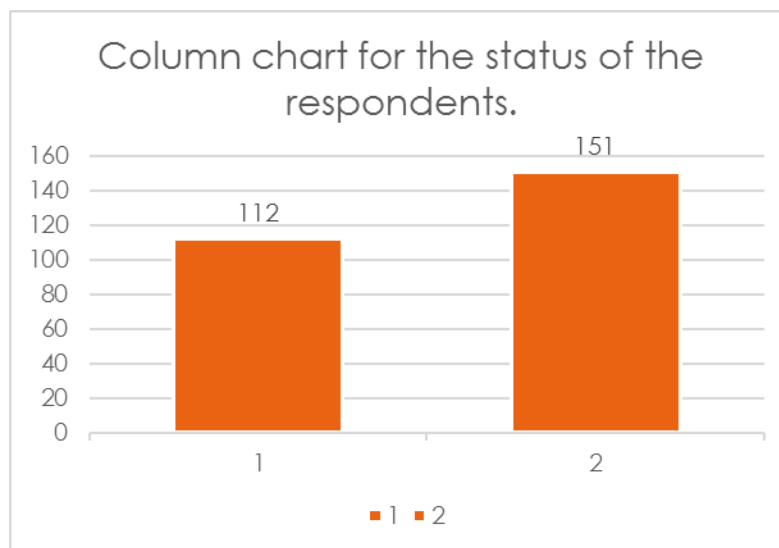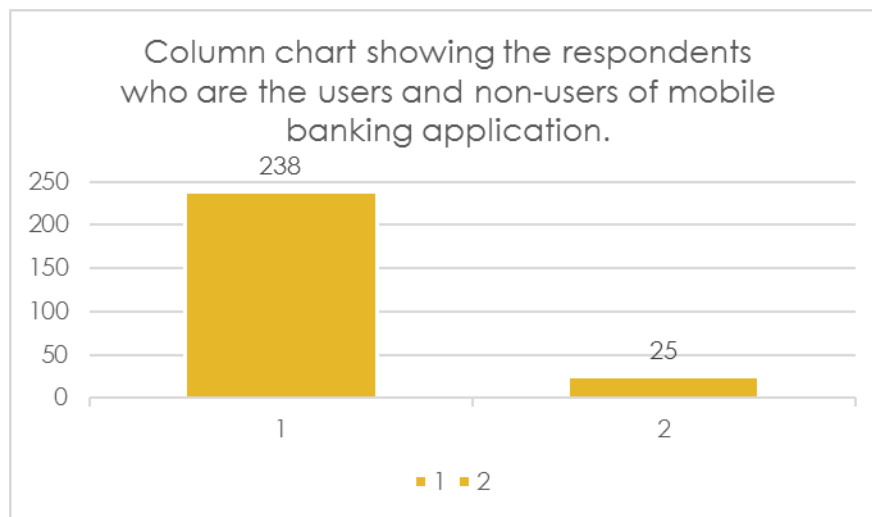

[In the above chart, 1 denotes Employed & 2 denotes Student.]
Figure 7 The status of respondents in our society

According to this figure (7), it shows that there is no significant difference between the % of respondents in employed category and student category. As both categories have their

own different uses like payments and transfers, online shopping etc. Both categories are equally likely for preferring the mobile banking.

[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 8 Users and Non users of Mobile banking app

According to figure (8), 90% of respondents are mobile banking application users while only 10% of them are non- users showing that it has a great relevance during this COVID crisis as majority of the people are its users.
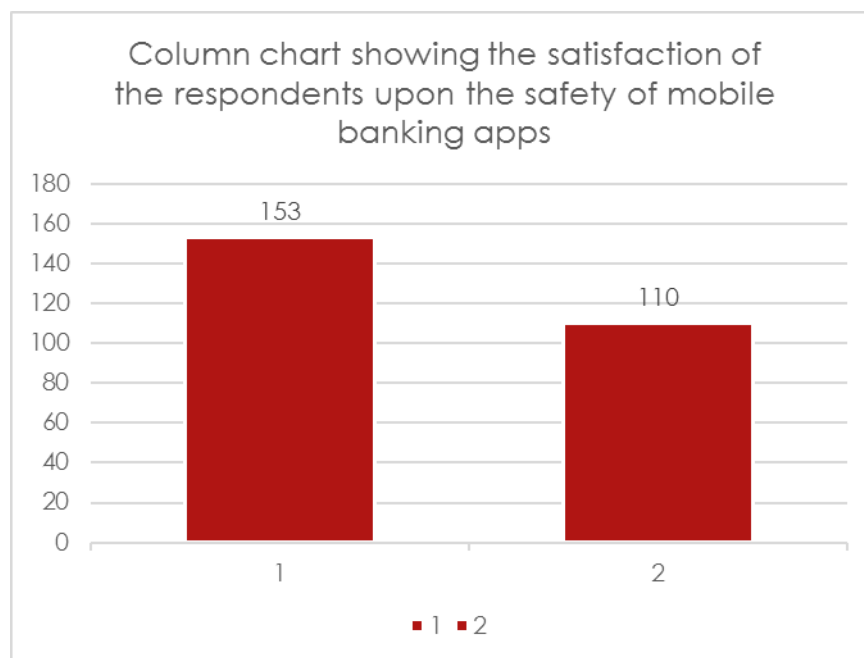
[In the above chart, 1 denotes Yes & 2 denotes No]
Figure 9 Opinion on the safety to use mobile banking app

In this figure (9); it is showing that around 58% of the respondents are agreeing that mobile banking application is safe to use while the rest are saying it is not. From this case we can understand that more people feel secured for doing transactions through these applications.

Pie-chart showing the convenience of using mobile banking app during COVID pandemic.

22, 8%

241, 92%

■ 1 ■ 2
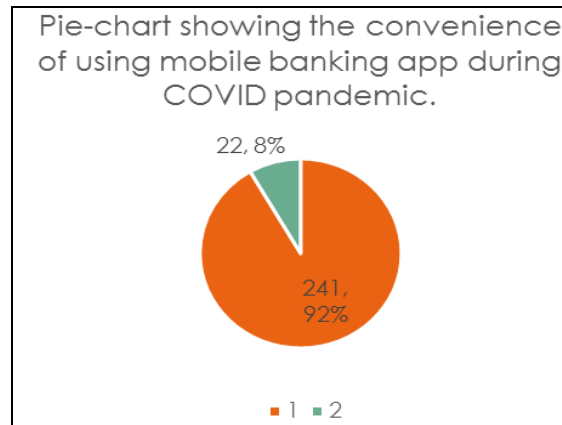
[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 10 Convenience level of using mobile banking app during COVID-19

In the above figure (10); around 92% of the respondents in the sample agreed that these mobile banking apps were more convenient for them during the lockdown period as it helped to do the transactions without going to banks directly and only 8% of respondents disagreed this, showing that mobile banking application had a great significance during this global crisis.

Column chart showing if any bad experience faced while using mobile banking apps.

207

56

1   2

■ 1 ■ 2
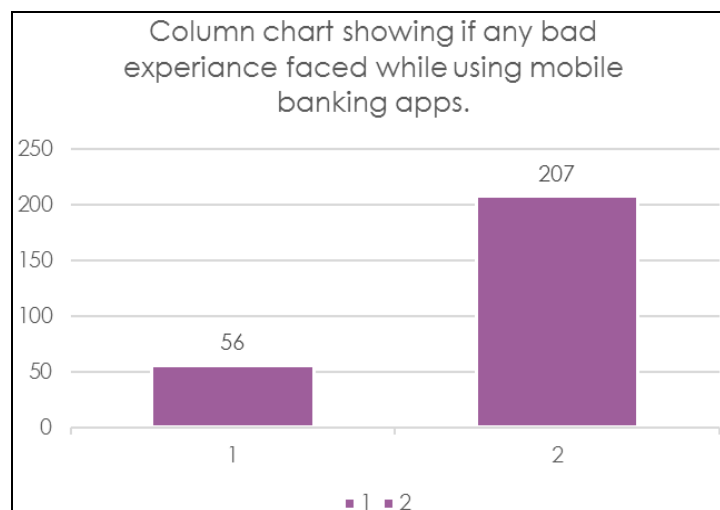
[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 11 Users who have had bad experiences using mobile banking app

In this figure (11); only 21% of respondents agreed that they faced some hardships while using this mobile banking but the remaining majority of respondents agreed that they did

not faced any challenges, thus we can infer that major portion of mobile banking services are customer friendly
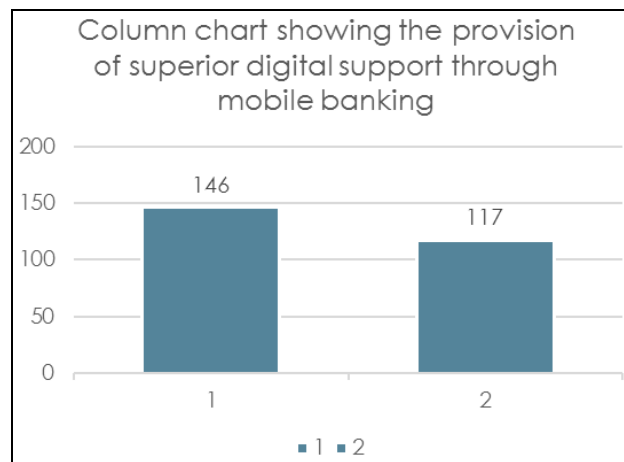
[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 12 Users opinion whether digital support was provided to them by the bank

In this figure (12); we can see that there is no much significant difference in percentages of the respondents who agree with the statement that mobile banking apps provide superior digital support in this crisis for its users, thus we can infer that mobile banking apps does not created any drastic change during this pandemic.
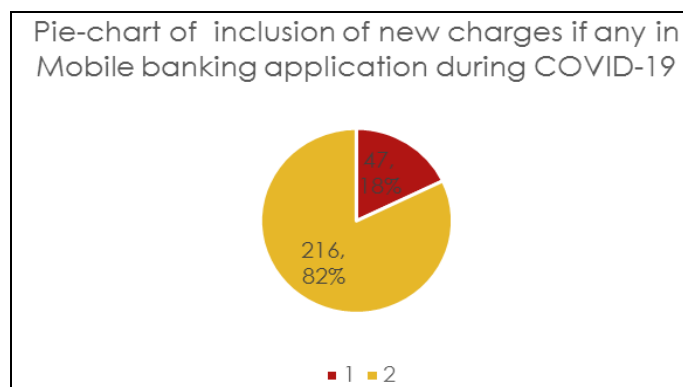
[In the above chart, 1 denotes Yes & 2 denotes No.]
Figure 13 Users opinion whether any charges were included for transactions during this Pandemic

In this figure (13); only 18% of respondents agreed that there is inclusion of new charges like providing some discounts in transactions etc which were introduced during COVID pandemic for the benefit of its users but majority of the respondents around 82% disagreed to this. From this we can infer that there is no much significant change in transaction charges specially during Corona pandemic.

Data Analysis

Analysis 1 – Status of Individuals and their Usage of Mobile Banking Application

H_0: There is no dependency between status of individuals and usage of mobile banking application.

H_1: There is dependency between status of individuals and usage of mobile banking application.

Table 1 Observed Value of Status and User status

	USER		
STATUS	Yes	No	**Total**
Employed	108	4	**112**
Student	130	21	**151**
Total	**238**	**25**	**263**

Table 2 Estimated Value of Status and User status of respondents

101.3536122	10.64638783	
136.6463878	14.35361217	
6.65	-6.65	
-6.65	6.65	
		Critical Value.
0.436334484	4.15625	**3.841458821**
0.323642418	3.081707317	**Chi – Square Value**
0.759976902	**7.237957317**	**7.99793422**

Since we reject H_0, accept H_1. This means status and usage are dependent. In other words, irrespective of being employee or student a very good response is there for individuals who use mobile banking application.

Analysis 2 – Status of Individuals and the Factors that Led to the Usage of Mobile Banking Application

H_0: There is no dependency between status of individuals and factors that led to the use of mobile banking application.

H_2: There is dependency between status of individuals and factors that led to the use of mobile banking application.

Table 3 Observed Value of Status and Factors of use

	FACTORS			
STATUS	Time Saving	Cost Saving	Both	**Total**
Employed	45	2	61	**108**
Student	66	1	78	**145**
Total	**111**	**3**	**139**	**253**

Table 4 Estimated Value of Status and Factors of use

47.38339921	1.280632411	59.33596838	
63.61660079	1.719367589	79.66403162	
-2.383399209	0.719367589	1.664031621	
2.383399209	-0.719367589	-1.664031621	
			Critical Value
0.119885696	0.404089201	0.046666488	**5.991464547**
0.089294174	0.300976784	0.034758487	**Chi- Square value**
0.20917987	**0.705065986**	**0.081424975**	**0.99567083**

Since we accept H_0, reject H_2. This means that status and factors that led to the usage of mobile banking application are independent. In other words, whether the individual is an employee or a student, it does not influence on the factors that led to use mobile banking application.

Analysis 3 – Quality Services Provided by Banking Application and its Ease of Use

H_0: There is no dependency between services and ease of use.
H_3: There is dependency between services provided by banking and ease of use.

Table 5 Observed Value of Quality of services and Ease of use

	EASE OF USE				
SERVICES	Easy	Moderate	Hard	None	**Total**
Good	168	45	1	3	**217**
Average	24	17	3	1	**45**
Poor	1	0	0	0	**1**
Total	**193**	**62**	**4**	**4**	**263**

Table 5 Estimated Value of Quality of services and Ease of use

159.243346	51.15589354	3.300380228	3.300380228	
33.02281369	10.60836502	0.684410646	0.684410646	
0.733840304	0.235741445	0.015209125	0.015209125	
8.756653992	-6.15589354	-2.300380228	-0.300380228	
-9.02281369	6.391634981	2.315589354	0.315589354	
0.266159696	-0.23574145	-0.015209125	-0.015209125	
0.481520836	0.740775356	1.60337562	0.027338753	**Critical Value**
2.465300735	3.851017349	7.834410646	0.145521757	**9.487729037**
0.096534605	0.235741445	0.015209125	0.015209125	**Chi-Square value**
3.043356176	**4.827534149**	**9.452995392**	**0.188069636**	**17.51195535**

Since we reject H_0, accept H_3. This means that quality of services provided and ease of use of mobile banking application are dependent. In other words, irrespective of the services provided by the application, its dependent on the ease of using the same by the individuals.

Analysis 4 - Quality of Services Provided by Mobile Banking Application & the Need for Good Network Connectivity

H_0 – There is no dependency between quality of services provided & the availability of network connectivity.

H_4 – There is a dependency between quality of services provided & the availability of network connectivity.

Table 6 Observed Value of Quality of services and Connectivity of internet

	Good Connectivity		
Services	Yes	No	**Total**
Good	200	17	**217**
Average	29	16	**45**
Poor	1	0	**1**
Total	**230**	**33**	**263**

Table 7 Estimated Value of Quality of services and Connectivity of internet

189.7718631	27.22813688	
39.35361217	5.646387833	
0.874524715	0.125475285	
10.22813688	-10.22813688	
-10.35361217	10.35361217	
0.125475285	-0.125475285	
0.551266043	3.84215727	**Critical value**
2.723950332	18.98510837	**5.991464547**
0.018002976	0.125475285	**Chi-square value**
3.29321935	**22.95274093**	**26.24596028**

From the above tabulation, we can summarize that since we reject the H_0 and accept H_4, it means the quality of services provided by mobile banking application and the need for good network connectivity are dependent. This means irrespective of the quality of services rendered, it requires a good network connectivity for doing the transaction successfully.

Suggestions

After several review and feedback from respondents we have formed certain suggestions to improve mobile banking applications. We mainly got to know that mobile banking application have a hard user interface and not everyone finds it quick to use and get transaction done. So, a user-friendly interface is one recommendable change we can suggest. Then another area of concern is that everyone does not have equal access to mobile banking application like people from backward communities and old people. They are not well versed with modern day gadgets and so a detailed guidance on how to use it would help them to use the mobile banking application in short, a training on how to use it would be help.

It would be good if the application is having less storage size as the size increases, they will tend to decrease its use. Also the frequent updates they provide regarding the same is troublesome because of the same reason and also at times we won't be knowing what new addition have been included in the interface as it is not informed by the developer most of the times, it can be resolved by making the application size to reduced MBs and also if a new update arrives, as a user it should be informed to us, like what that particular updation is all about. The banks should also safeguard their customers from falling into trap by using fake applications by educating them and giving proper awareness about the correct applications for transactions and other services. This way a strong customer relation can be maintained throughout.

Discussions

To handle the situation of COVID-19 crisis digital transformation trends has well aligned with it, the mobile banking scenario after COVID-19 is unlikely to be radically different from the one that preceded it. The trend with the usage of mobile banking application have significantly accelerated because of the pandemic. This study was conducted in Kerala and has been carried out to check the advantage of mobile banking applications in this pandemic crisis. We aimed to find out how this mobile banking application has been useful to people at different corners of Kerala state and also to know whether this crisis led to the increase in number of users during the span of time i.e. between April and June when the study was conducted. We focused on people from different financial backgrounds and status for our study and it is concluded that regardless of being an employee or student, the usage of online banking applications has drastically increased for satisfying their various purposes in life. Various factors like ease of use, cost and time saving factors and so on have led to increase in it's over the span of time. Thus, mobile

banking services helped to maintain social distance and to safeguard the lives of people by staying safe at their homes and do the receipt and payment transactions.

References

Aboelmaged, M., & Gebba, T.R. (2013). Mobile banking adoption: an examination of technology acceptance model and theory of planned behavior. *International Journal of Business Research and Development*, *2*(1), 35–50.

Antharjanam P.D., Raj, R., Sandra Sumam D.S., & Abymon, A. (2020). Impact of Merger and Acquisition of Banks on Customers and Improvements in e-services of the Bank: A Case study on SBI-SBT Merger. *International Journal of Psychosocial Rehabilitation, 24*(Issue 08).

Mohan A., & Abymon, A. (2019). Impact of Technological Innovation on Bank Employees Stress. *Jour of Adv Research in Dynamical & Control Systems,* 11, (0Special Issue).

Devadevan, V. (2013). Mobile Banking in India – Issues & Challenges. *International Journal of Emerging Technology and Advanced Engineering, 3*(6), 516–520.

Fenu, G., & Pau, P.L. (2015). An Analysis of Features and Tendencies in Mobile Banking Apps. *Procedia Computer Science, 56*(1), 26–33.

Girish, V., & Manu, M. (2020). Impact of COVID-19 on Mobile Banking Services. *Studies in Indian Place Names, 40*(70), 2790–2797.

Goyal, V., Pandey, U.S., & Batra, S. (2012). Mobile Banking in India: Practices,Challenges and Security Issues. *International Journal of Advanced Trends in Computer Science and Engineering, 1*(2), 56–66.

Gunaseelan, S., & Kesavan, N. (2020). Business and Economic Recessions in India during the COVID-19: A Review. *Journal of Xi'an University of Architecture & Technology, XII*(IV), 356–366.

Mohan, L., & Potnis, D. (2015). Mobile Banking for the Unbanked Poor without Mobile Phones: Comparing Three Innovative Mobile Banking Services in India. *Proceedings of the Annual Hawaii International Conference on System Sciences,* 2168–2176.

Gopal, R.N., Akshaya, V.S., Arjun, A., & Abymon, A. (2020). A Study on Customer Satisfaction towards SBI Yono with Special Reference to Kollam District. *International Journal of Psychosocial Rehabilitation, 24*(Issue 08).

Anand, R., Das, J.B., Krupa, K., Kurup, P.P., & Durgalakshmi. C.V. (2020). A Study on the Effect of Ola/Uber Taxi Services over the Local Taxi Services in Kerala. *International Journal of Psychosocial Rehabilitation,* 24(Issue 05).

Singh, R., & Adhikari, R. (2020). Age-structured impact of social distancing on the COVID-19 epidemic in India. *arXiv preprint arXiv:2003.12055*. http://arxiv.org/abs/2003.12055.

Jha, V., Dinesh, T.A., & Nair, P. (2020). Are we Ready for Controlling Community Transmission of COVID 19 in India? *Epidemiology International (E-ISSN: 2455-7048), 5*(1), 10-13.

Kavrayıcı, C., & Kesim, E. (2021). School management during the covid-19 pandemic: A qualitative study. Educational Administration: Theory and Practice, 27(1), 1005-1060.

https://www.icarvision.com/en/the-impact-of-covid-19-on-the-use-of-online-banking

https://thefinancialbrand.com/95735/digital-online-banking-coronavirus/

https://scholar.google.com/scholar?q=related:bYbBwAHkJPEJ:scholar.google.com/&hl=en&as_sdt=0,5#d=gs_qabs&u=%23p%3DbYbBwAHkJPEJ

https://corporatefinanceinstitute.com/resources/knowledge/finance/mobile-banking/

https://www.icicibank.com/blogs/mobile-banking/difference-between-mobile-and-internet-banking.page

https://techcrunch.com/2016/06/17/the-evolution-of-the-mobile-payment/

https://www.mobiletransaction.org/different-types-of-mobile-payments/

https://economictimes.indiatimes.com/wealth/personal-finance-news/mobile-banking-catching-on-fast-heres-the-proof/articleshow/65593432.cms