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# Yes or No for Mobile Banking Apps: An empirical Investigation of adoption Factors

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## **ABSTRACT**

*In this era of Clouds, Banking services have stepped into the new world. From traditional Branch base banking services to Modern online banking Services which include internet Banking, Mobile banking Apps etc. With the emergence of Modern Services there seems a gap between services delivered and adoption by the people. So it is important for the service providers to analyze the gap. This paper tries to examine factors influencing adoption of Mobile Banking Apps. A total of 145 respondents examined through convenient sampling. Through the demographic analysis it is observed that a typical mobile banking user is young literate, female students. The Findings further suggest that factors like Social Influence, timeeffectiveness, Simplicity and usefulness acts a major factors that influence the decision for adoption of Mobile banking Apps. Thus, these Factors help service providers to understand the youth intention and to make strategies accordingly to provides maximum inclusion and helps in achieving the mission of Digital India.*

**Keywords:** *Mobile Banking, Exploratory Factor Analysis, M-Commerce*

## **1. INTRODUCTION**

With the Fourth Industrial Revolution, there has been magnificent rise in the number of smartphone in the world. According to mckinsey Digital India Report, 2019 [12], India stands at no. 2 globally in having Smartphone devices. The Fact proves that ownership of Smart phones for Indian population. This trend of ownership has seen an increase with the introduction of 4G JIO Sims in the Market. It provide tremors to ongoing Indian Mobile market. In India from then onwards in 2015 a new trend has seen a light and it has been fueled by Demonetization and many other Factors.

These days it has been seen that Smart phone are not just limited to use of Social media apps, rather we have seen that there is a rapid Increase in the use of online Payment apps services and Mobile Banking Apps. The M- Commerce is a major platform under which Mobile Banking Apps gains its name. In India, initially Banks have started with Online Banking, then Phone Banking and now in today's time it is Mobile Banking Apps. With the Banking Apps, the bank services have become useful and convenient for the users. With this the users will have the world at its tips as all the work from shopping to paying bills have become just a matter of single Pin. Mobile Banking apps are not just handy but it is also time effective as there is no need to visit the branches and stand by in Long Ques for your turn.

With the use of Mobile Banking Apps, we can easily transfer the money, have bill payments

and can locate ATMs. These mobile Banking Apps act as a platform for the users to have 24 hours bank services and not to confine yourself to the defined Banking Hours. The First Mobile App in India is iMobile, an initiative by ICICI Bank. From past researches, it has been seen that there is a positive relation among banks performance and Information Technology. In light of this fact today we have seen that almost all the Banks in India irrespective it is Public, private or cooperative is having its Mobile Banking Apps. Though many techniques are used to evaluate the actual use of the apps through the help of TAM model but in India the case might be different. Due to heterogeneity of the Indian Population the reasons will be quite unknown and different. The hesitation among people in adoption of these Services is the base reason that calls for this study. The study of factors are thus considered to be important as it act as shaping attitude of Individual which further impact the adoption of Apps and to the society.

So in the backdrop of the facts discussed, this article fundamental purpose to establish as to what makes and influence Indian people to adopt for the services through Mobile Banking Apps. In the light of above major factors will be examined. The proceeds of this paper will be firstly through reviewing the literature for the study and the next part calls for the empirical investigation through the help statistical tools like Factor analysis.

## **2. LITERATURE REVIEW**

The Banking sector in India emerged as the fundamental growth Pillar that drives the economy. So far banking sector in India has undergone through Various Stages. With the adoption of LPG Policies in 1991, A new picture was emerged in Banking Sector. Now the intricacies of world will have direct impact on Banking sector in India. The 2008 Financial Crisis has impacted the Indian Banking system and effects are still lingering on in terms of NPA crisis (Live mint, 2018). Banking sector now is witnessing a shift from Traditional Banking to Modern Banking as smartphone users ownership is increasing in India (mckinsey Digital India report, 2019). Mobile Apps culture has emerged with the growth of ICT. In Various fields studies are conducted to examine the perception of consumers towards the usage of various Mobile Apps except social Apps. Lee et al, 2018 in US population studies the perception of consumers towards Shopping Apps and was found to have significant positive influence in adoption to these services as those are more convenient and useful. Various Studies in and around the world are conducted to determine the response of customers towards Mobile Banking Services.

Suranta (2003) in Finland undertook the study and provides us the revised model that suggest that time and demography act as important factor in determine the adoption of mobile banking services. Similar study was conducted in Malaysia by [1] and analyzed the similar results that demographic a psychographic factors plays a significant important role for the adoption of mobile banking.

[2] undertook similar study on University students of Taiwan. The study provide that convenience and simplicity were major factor that influence students to adopt Mobile banking whereas factors like security in payment transactions and charges for mobile internet connection act as hindrance factor in adoption.

Teo (2011) also conducted the similar study in Malaysia and incorporated TAM model effectiveness relation with demographic factors and subjective norms. A total of 193 responses received through Questionnaire. They were examine through the method of multiple regression and Factor analysis. The results indicates that demographic factors has a significant positive influence and education and gender plays a crucial role that determine the

adoption of Mobile Banking.

In Developing country like India also studies were conducted as the winds of Modern Banking services were coming from the west. Dasgupta et al (2011) tries to examine the urban population decision factors. The study was confined to the region of Delhi. Through the statistical tools of Factor Analysis and ANOVA results were conducted. The major Factor emerged out to be Security / Reliability / Efficiency and Responsiveness by the 200 respondents and also provides that security issues act as a major factor in hindrances for adoption of these services.[3] in their similar study provides Usefulness of these Mobile Banking services is another major adoption factor among Indian People.

[4] in their paper “Factors affecting Customer’s Adoption of Mobile Banking services” studied the population from Ahmedabad and Gandhinagar of Gujrat state. The 200 respondents were questioned through well-structured questionnaire. The results indicates that the factors like convenience, safety, operational simplicity, time and ease of Investigation led to the adoption of any mobile banking services. The current study also examine that young Indian literate male belonging to Middle income strata were the maximum users of these mobile banking services.

From the similar studies in the past [5] also analyzed the factor in Indian Population and provides Usefulness of Mobile Banking as a primary factor in adoption. From the perspective of Indians society also acts a major role in influencing the behavior of its members. Due to patriarchal nature of our society, Influence of elder’s decision still has a role in determine the adoption of mobile banking services.

As from the above literature reviewed trend has been emerged that most of this studies as of now is conducted on Mobile Banking service but in the light of new era in India like ICT revolution, the apps culture is emerged. So the present study focus on Mobile Banking apps adoptions factors by the people of Chandigarh and Mohali region .As these regions are now emerging as new urban spaces so the results contributes to the existing literature of Mobile Banking Services as only focused on Internet Banking ,Telebanking . The policy makers and Banks in India will be helped by this study to analyses the factors and can make changes accordingly in order to determine maximum usage of their services.

### Objectives of the Study

The objective of the current study is to explore the patterns of use of Mobile banking services. It further calls for examining the factors that determine for adoption of Mobile Banking Apps.

### **3. RESEARCH METHODOLOGY**

In order to have better and extensive perspectivethe Quantitative method was used in this research work study. This study focus on descriptive research study through the sample of 145 who are having Active Bank account and are currently active in using mobile Banking Services. Using non probability method of Convenient Sampling the sample of 145 for the study was selected. For the Data collection both the methods has been used to find the results. The primary data in the study is obtained though the technique of structure

Questionnaire and Secondary data through the RBI website. The Questionnaire consists of close ended questions and was divided into two part. Initially the questions consists of the Socio-Demographic profile and the second part with questions linked to mobile banking apps measured on Likert Scale of seven point that varies from (1 = strongly disagree, 7 = strongly agree). The Questionnaire was administered by people of Chandigarh and Mohali cities of Punjab state from October, 2019 to December, 2019. The due fact has been taken into consideration that active users of banking services to be administered only.

### Empirical Analysis & Interpretation

#### Analysis of Demographic Profile of the Respondents

Table: 1 Gender  
Source: Primary Data

Gender	No. of. Respondents	Percentage
Male	70	48
Female	75	52
Total	145	100

#### Interpretation

Table 1: The table provides that in the current study the out of 145 respondents, 75 (51.7 %) were females and 70 (48.3 %) were males. Thus it highlights the fact that majority of m banking users are Female.

Table 2: EDUCATION  
Source: Primary Data

S. No	Education	No. of. Respondents	Percentage
1	Not Educated	1	0.7
2	Bachelor Degree	29	29
3	Master's Degree	112	77
4	Ph.D. Degree	3	1.3
	Total	145	100

#### Interpretation

Table 2: The Above table gives Education Background of the respondents. Among the respondents 22 % were graduates, 77.2 % post graduates and 1.4 5 doctorates. These number reveals that most of the respondents are literate

Table 3: Martial Status

**Source:** Primary Data

Marital Status	No. of Respondents	Percent
Married	25	18
Single	120	82
Total	145	100

## Interpretation

Table 3: The Above table gives Martial status of the respondents. From the table it has been seen that most of them are not married (82 %) and only 18 % of the respondents were married.

Table 4: Profession

**Source:** Primary Data

Sr No.	Profession	No. of Respondents	Percent
1	Self-Employee	4	2.7
2	Government Employee	3	2
3	House wife	1	.7
4	Private employee	23	16
5	Students	114	78
	Total	145	100

## Interpretation

Table 4: Above table shows the profession of the respondents. The majority of them were students (78 %) followed by people in private sector (16 % ) , Business man (2.7 % ) , Government sector people ( 2 % ) and House wife ( 0.7 % ) .This show that major part of the sample consists of students.

## Exploratory Factor Analysis

In order to examine the important factors affecting adoption of mobile banking apps, the respondents were asked to rate the 18 questions on seven point Likert scale, which varies from 'strongly disagree to strongly agree'. The statistical method of Exploratory Factor analysis is used to examine the major important factors as factor analysis will reduce the variables and group them into together to form major factors .

Table:5 KMO and Bartlett's Test  
Source: Primary Data analysis through SPSS

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	1408.130
	df	153
	Sig.	.000

Firstly the Kaiser – Mayor – Olkin (KMO) measure of sampling adequacy was obtained to check whether the data is adequate enough to proceed for factor analysis. The value greater than 0.5 is considered to be adequate. In our table the value of KMO is 0.934 which is excellent and proves that data is adequate enough for conducting of Factor analysis. Also in addition to KMO, Bartlett test of sphericity is checked. In our table, the value was found to be significant with Chi- square 1408.130 and degree of freedom is 153. So, now we can further proceed to Principal Component Analysis with varimax rotation to identify the major factor.

Table: 6

	Component			
	1	2	3	4
1_The Mobile bankingapps isUsefultome	.044	.320	-.201	.690
2_The Mobile Banking app I am using is valuable to me	.024	.006	.010	.115
3_I find this app facilitates two way communication (Communication from bank as well as customer side is possible)	-.291	.210	.623	.407
4_I find this app is gathering user's feedback	-.160	.012	.690	.272
5_I find the content available in mobile banking apps is useful to me	-.066	.452	0.23	.787
6_I think the transactions through mobile banking apps are secured	-.034	.223	.136	.644
7_I obtain the information from the mobile banking apps in a timely manner	-.070	.649	.185	.207
8_The banking app process my input very quickly	-.048	.548	.254	.185
9_I find the mobile banking app	.237	.427	.840	-.126

functional				
10_My working on app is clear and easily understandable	.138	.235	.675	-.010
11_ Interacting with mobile banking app doesn't require a lot of mental effort.	.107	.041	0.70	-.010
12_I easily find the tab-menu in mobile banking app which I need while doing banking through mobile apps	.103	.032	0.59	.024
13_I find mobile banking app easy to use	.278	.009	0.76	-.210
14_I will continue using this mobile banking app	.632	.263	-.035	-.107
15_I will tell my friends about usefulness of this mobile banking app	.709	.001	.316	.076
16_ I am completely satisfied with the mobile banking app	.530	.216	.015	-.027
17_I feel good towards using mobile banking app	.573	.008	.312	-.172
18_I think it is a good idea using mobile banking app	.708	.029	.089	-.015

Exploratory factor analysis was conducted and items having Eigen value more than 1 will be retained. Table 6 provides that a total of 4 major factors been obtained.

Factor 1 (Component 1): has four variables clubbed under it and is termed as “Social Influence” factor. This indicate and important point that society influence your adoption for apps. The word of mouth publicity is effective enough to make or break. As people take advices from Family and friends while adoption.

Factor 2 (Component 2): has two variables clubbed into it and is termed as “Time Effectiveness”. It portrays the efficiency and effectiveness of mobile banking apps as it saves time, provide for faster payments and timely processing the information asked. Thus time is considered to be an important factor while adoption of mobile banking apps.

Factor 3 (Component 3): termed as “Simplicity” has seven variables clubbed into it. This factor presumes that Mobile banking apps is simple in usage and learning. The interactivity and clear understanding of the app makes it an important factor for adoption. Thus a positive correlation between perceived ease of use and adoption to apps (Olasina , 2015 )

Factor 4 (Component4):loaded with five variables and termed as “Usefulness”. This factor indicates that the easy to use the app with less mental efforts provides for its ease of use .The ease also includes the money transfer to bill payments and recharges.

#### 4. CONCLUSION

In this unprecedented time, Smartphones are acting as a major tool of communication. The Banks are also trying to harness this opportunity through adoption of Modern banking



practices. As of now they are providing it as an alternative platform to its customers through internet banking, tele banking and Mobile banking Apps in order to enhance maximum usage. A lot of research has been conducted to best utilize these services but from the studies the trend has been observed that mostly internet banking service is studied. Through this paper, the author tries to examine the reasons in form of factors that helps influence the decision for adoption of these Mobile Banking Apps. As importance of this study is looked from the fact of fourth Industrial revolution and the app culture environment which has developed in the recent time period.

As a matter of fact the present study examined the fact that users who were student, female and Unmarried are the major users of Mobile banking Apps. The Major factors that they observed to be crucial while adoption of Mobile banking Apps is its simplicity, time effectiveness, social influence and usefulness irrespective of the type of bank that is public or private bank. These factors can also be study in light of TAM model that has basic construct of Perceived ease of Use and Perceived Usefulness. This study contributes significantly to the literature of Mobile Banking as through the help of Factor Analysis those factors are examined and are statistically proven. The study of factors is Important as it shapes the attitude that further Influence the Adoption of Mobile Banking Apps. It is desirable in the future if more studies will be conducted to explore more factors that determine the usage and adoption of Mobile Banking services. In spite of incorporating Technology Adoption Model (TAM), more similar models to be incorporated to widen the prospect in modern context keeping in the viewnuances of this ever changing world.

The Limitation of this study is that it confines itself to cities of Chandigarh and Mohali of Punjab region.

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