

# Changing Face of Online Banking in India: Technological Transformation Perspective

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**Abstract:** Twenty first century has witnessed real time shift in technical development in last couple of decade. Industrialization and Globalization has boosted the scope of technology use. Internet and technology started playing crucial role in every business function in diversified industries including e-commerce, e-banking, retailing and manufacturing. One could not find a single business operation without technology in present situation. People are talking about artificial intelligence and neural network use in their day to day life. Internet has become one of the most important needs after basic and emergency needs to human beings in this century. Social Media is most transforming innovation of internet technology in recent times. This is the most common virtual platform of gathering and communication in today's generations. Millions of messages and pieces of information are being shared every second in present time frame. Reach of Social Media has its roots to the longitude and latitude of the globe in recent time. Social Media initially only meant to communicate and chat with social and friend circle virtually has transformed itself in multidimensional platform for information sharing as well as building professional networks and discovering career opportunities. Website version of internet and Social Media is converted very portable and convenient form with the innovation of smart phone. After the quick transform in digital and internet technology made by smart phone; Social Media reached to finger tips of almost every individual globally. This research is focusing on changing dimension of Social Media as online banking and financial transaction platform and user's opinion as some Social Media service provider started offering this service to their users.

**IndexTerms** - Financial Transaction, Internet Technology, Online Banking, Social Banking, Social Media

## 1. INTRODUCTION

Online social networking: An innovative shelter of Twenty First Century which helped many businesses to overcome from client driven difficulties. According to Experts (Statista, 2017), from 2015 to 2017, Indian online networking clients were expanded from 142.23 million to 196.02 Million i.e. around 27.44% development and it will reach up to 370.77million by 2022. While number of cell phone web clients in India in 2015 was 259.88 million and anticipated that would grow 511.89 million by 2022. This given insights proposes us about the business openings and client centered administrations for the Financial Institutions. As India is having immense web and in addition web-based social networking clients, this is without doubt a portion that speaks to from various perspectives for the future client. The significant monetary establishments should build up an association technique and a channel which address the requirements of various arrangements of clients with their own particular arrangement of inclinations and requests. Money related foundations will have the capacity to plan their own particular connection systems with both their present and future clients just by understanding the powers fundamental long range informal communication cooperation. Online networking is, and will be, the undisputed lord of the Internet in India. According to the investigation of KPMG on the Social Media on Financial Services (Mr. Radiant Banerjee, 2017), uncovers that like different businesses, banks have colossal unexploited chances to screen interpersonal organizations, examine drifts, and draw in with clients to make connections. In the zone of budgetary administrations, Customer's inquiries and grumblings can be settled by interfacing through the online networking. At the point when the inquiries and/or grumblings have been posted by the client on the company's/foundation's online networking page, the delegate of the monetary organization can address in it.

## 2. LITERATURE REVIEW

Huge numbers of studies are conducted related to online banking and its acceptance as well as its feasibility but; very few studies are conducted related to online banking through social media as this very new innovation and technological shift in banking and social media industry.

(Malhotra, 2017) has said in his research study that today, Social Media has become important and essential skills for all, even for those who don't know about Information Technology. In recent years, it has been observed tremendous growth in Social Media users. Knowledge of these media makes users to use these tools more useful and effective.

(Moumita Deb Choudhury, 2017) On 8th Nov 2016, Demonetization has given a momentum to digital payments in India and on the other hand, advanced technologies are set to take the banking and financial sector by storm, which in turned generated many opportunities for technology investments into digital payments infrastructure. The digital transactions have already doubled in

2016-17 and is expected to grow further by the end of FY17-18, from 32 percent in 2013-14 to 62 percent in 2017-18, shows a research by IDC.

According to (Bahman Rezayat, 2017) more than 2 billion people are using Social Media in the world. As per the reports, in January 2017, use of Social Media has increased in such a way that Facebook has 1.871 billion, WhatsApp a billion and Instagram 600 million active users. From last decade, banks and other financial institutions has started using Social Media for various reasons like customer retention, personal connectivity with customer and many more.

According to (Degital Insights, 2017) Financial Institutions in Indian has shown incredible growth on Social Media platforms like Facebook, Twitter, YouTube etc. Indian financial institutions have proved that it's not only the matter of opening bank accounts, wealth management, investments in Mutual Funds, Insurance and so on but also with their continuously increasing presence in Social Media, Indian Banks and other Financial Institutions have understood that likes, tweets and share do matter a lot to engage with the young generations. Banks and Financial Institutions also have started to use Social Media as another customer care platform, similarly to showcase their thought leadership, to launch new products, endorsing celebrities and many more.

On the other hand (Arvind Badrinath, 2017) has mentioned in his studies that almost every Indian Bank and Financial Institutions has a Facebook page and a Twitter handle, and are using Social Media as a platform to connect with customers. As per the report by Capgemini (2014) banks have a lot to lose by confining themselves to traditional and internet banking if they avoid their presence on Social Media. One key reason mentioned for the need of Social Media banking is the opportunity to obtain data for business analytics to serve them better in many ways, to find out potential customers and potential analytics could also provide potential defaulters on loans.

As said by (Sohini Bagchi, 2015) India's largest private sector lenders, ICICI Bank, have recently announced that customers can transfer money through Twitter. This service, namely 'icicibankpay' allows their customer to transfer funds, check account balance, check last few transactions and also recharge their prepaid mobile phones. Similarly, in 2013, the ICICI bank launched an app "Pockets by ICICI Bank"—which enables their customers to carry out a slew of banking services on Facebook to focus on the youth population. Likewise, Kotak Mahindra Bank has imitated same concept by launching 'KayPay' for Facebook user to send money to each other and allowing over 250 million bank account holders of India to transfer funds to each other instantly by choosing recipients from their Facebook friends list. Various other Banks such as HDFC Bank, Axis Bank and State Bank of India are also encouraging technology innovation with the help of mobile, analytics and Social Media in order to serve customers more effectively.

It is found in research conducted by (Jeffry Pilcher, 2013) as he said FIS (Financial Services Industry) with some of their clients, 57% financial institutions with \$1 billion or more in assets said Social Media has Significant importance in gaining Competitive Advantage whereas only 37% of smaller institutions which is less than \$1 billion in assets were agreed. Whereas one out of three small financial institutions said that they have no plans to develop a Social Media strategy, even though proposed FFIEC (Federal Financial Institutions Examination Council) regulations will make them mandatory for every financial institution. Out of all the financial Institutions 72% institutions were not using Social Media as they are more concern about Data Security. Similarly, one quarter of financial institutions with \$1 billion in assets or more, are doing well with Social Media.

## 2.2 RESEARCH DESIGN:

This research is performed under exploratory design till the time of hypotheses and objectives formation. Existing literature is analyzed thoroughly to conclude hypotheses and objectives statements as this is the qualitative study till the completion of this stage and pilot study. In order to justify selected objectives and to test proposed hypotheses, descriptive research design have played major role as it became quantitative study after this stage. As it is always inconvenient for any researcher to be dependent on single research design for all these steps to complete, this research study is also a combination of exploratory as well as descriptive research design. In order to narrate required conclusion and to develop theme of research, various sources of qualitative data i.e. secondary sources like technology and banking journals, digital marketing books and various newspaper articles were referred. As biggest and easiest source of information now a day; internet have played major role in collecting and verifying information. For collection of primary data collection respondents were given a structured questionnaire in Google survey form to give their level of agreement for measurement variable on five point Likert scale. Measurement variables affecting dependent variable were coded in statements to receive opinion of respondents. Snowball sampling is used to receive e-mail addresses of respondents and sample frame is developed on this basis. People from 18-45 age groups are considered as target respondents. Pilot study was conducted on 25 convenient responses received from friends and colleagues for whom reliability value of instrument was 0.775. As instrument found reliable in acceptable range; 600 emails were sent to respondents out of which 410 respondents has given their opinion. Out of received 410 responses; 385 responses are considered for final analysis after cleaning and filtering of received data. SPSS is used to perform parametric tests like t-test, z-test, correlation, regression and ANOVA on collected respondents. AMOS is also used to perform structural equation modeling.

### 3. OBJECTIVES:

1. To study the impact of demographic factors on interest of Social Media users for online banking transactions through Social Media.
2. To study the relation between attitude and interest of Social Media users for online banking transactions through Social Media.

#### 3.1 HYPOTHESES:

##### Hypotheses 1:

H1 = There is significant relation between interest for online banking transactions through Social Media and demographic factors of Social Media users.

H0 = There is no significant relation between interest for online banking transactions through Social Media and demographic factors of Social Media users.

##### Hypotheses 2:

H1 = Interest of Social Media users is dependent on their attitude for online banking transactions through Social Media.

H0 = Interest of Social Media users is independent on their attitude for online banking transactions through Social Media.

Measurement and Observed Variables:

Dependent Variables	Coding	Measurement Variables
Demographic profile	DP1	Gender
	DP2	Age
	DP3	Education
	DP4	Occupation
	DP5	Geographic Location
	DP6	Income
Attitude	AT1	I trust on Social Media for Online Banking transaction in terms of safety and security
	AT2	Purpose of Social Media is entertainment and should not be used as Online Banking Platform
	AT3	I am a Socio-Tech Savvy User
	AT4	I would like to do Online Banking through Social Media.
Interest	INT1	I use Online Banking frequently
	INT2	I wish to use Social Media for online banking

### 4. DATA ANALYSIS:

To test hypothesis one and relation between interest for online banking transactions through Social Media and demographic factors of Social Media users; two independent variables (Online Banking transaction frequency and user's willingness) measuring users interest for online banking transaction through Social Media are transformed in one variable through SPP by calculating composite mean which is named as interest score. Pearson's Correlation Test is performed on measurement variable at 1x6 tables between interest score and 6 demographic factors as below:

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

		Gender	Age	Qualificatio	Income	Occupatio	Region	INTS
Gender	Pearson	1	-.162**	-.033	-.193**	.087	.165**	.064
	Sig. (2-tailed)		.001	.519	.000	.089	.001	.212
	N	385	385	385	385	385	385	385
Age	Pearson	-.162**	1	.372**	.654**	.671**	-.135**	.184**
	Sig. (2-tailed)	.001		.000	.000	.000	.008	.000
	N	385	385	385	385	385	385	385
Qualificatio n	Pearson	-.033	.372**	1	.475**	.443**	-.008	.260**
	Sig. (2-tailed)	.519	.000		.000	.000	.873	.000
	N	385	385	385	385	385	385	385
Income	Pearson	-.193**	.654**	.475**	1	.511**	-.079	.261**
	Sig. (2-tailed)	.000	.000	.000		.000	.120	.000
	N	385	385	385	385	385	385	385
Occupation	Pearson	.087	.671**	.443**	.511**	1	.109*	.079
	Sig. (2-tailed)	.089	.000	.000	.000		.033	.122
	N	385	385	385	385	385	385	385
Region	Pearson	.165**	-.135**	-.008	-.079	.109*	1	-.145**
	Sig. (2-tailed)	.001	.008	.873	.120	.033		.004
	N	385	385	385	385	385	385	385
INTS	Pearson	.064	.184**	.260**	.261**	.079	-.145**	1
	Sig. (2-tailed)	.212	.000	.000	.000	.122	.004	
	N	385	385	385	385	385	385	385

#### INTERPRETATION:

Based on correlation test performed to test hypothesis one it is found that there is no relationship between Gender and Interest in using Social Media as online banking platform as correlation value is 0.212 which is more than 0.05. User's Age and Interest in using Social Media as online banking platform is also found significantly related to each other at 0.000 levels. Educational qualification, residential region and income of Social Media user and interest in using Social Media as online banking platform are found positively significant to each other in co-relation matrix at 0.000 levels of significance. But there is no relationship between user's occupation and interest in using Social Media as online banking platform as correlation value is 0.122 which is again more than 0.05. These results have justified the acceptance of alternate hypothesis and rejection of null.

#### 4.1 HYPOTHESIS TESTING 2

To test hypothesis two and dependency of user's attitude and interest for online banking transactions through Social Media Regression analysis is used to check the variations in dependent variable when any of the independent variable changes. Regression analysis helped to understand relation between dependent and independent variable in terms of variance in their value and its impact. Two independent variables (Online Banking transaction frequency and user's willingness) measuring users interest for online banking transaction through Social Media are transformed in one variable through SPP by calculating composite mean which is named as interest score and this is considered as dependent variable in this test whereas factors measuring attitude were considered independent variables. Results of regression analysis are found as below:

**REGRESSION MATRIX:**

## Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.848a	.718	.715	.49677	.718	242.377	4	380	.000

a. Predictors: (Constant), AT4, AT2, AT3, AT1

Interpretation: Adjusted R square value of tested model through hypothesis is 0.715 which means considered independent variables (i.e. I trust on Social Media, Purpose of Social Media, Socio-Tech Savvy User and like to do Online Banking through Social Media) are able to describe dependent variable i.e. interest of Social Media users for online banking transaction through Social Media at 71.5% level.

ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	239.251	4	59.813	242.377	.000a
	Residual	93.775	380	.247		
	Total	333.026	384			

a. Predictors: (Constant), AT4, AT2, AT3, AT1

b. Dependent Variable: INTS

Interpretation: Significance value i.e. p value of assumed model is 0.000 which is less than 0.05 and hence as this model is accepted for alternate hypothesis and null hypothesis is rejected. This model is describing significant positive relation between user's interest for online banking transactions through Social Media and their attitude. According to the results of this test it can be said if attitude of Social Media users is positive then their interest level will be significantly higher and vice versa.

## Coefficients

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.229	.108		-2.126	.034
	AT1	.127	.037	.127	3.436	.001
	AT2	.068	.020	.097	3.422	.001
	AT3	.106	.022	.142	4.938	.000
	AT4	.623	.033	.728	19.000	.000

a. Dependent Variable: INTS

Interpretation: All the four measurement variables (i.e. I trust on Social Media, Purpose of Social Media, Socio-Tech Savvy User and like to do Online Banking through Social Media) have significant positive impact on the interest of Social Media users for online banking transactions through Social Media as significant value of all variable is positive and less than 0.05. p value less than 0.05 is evidence to reject null hypothesis and accept alternate hypothesis.

5. STRUCTURAL EQUATION MODELING:

Structural Equation Modeling (SEM) is used to check developed model in order to compute mathematical relations and statistical operations that fit network of constructs. With the help of SEM relation between measurement variable and dependent variables is established for measure ring loading of factors on dependent variable.

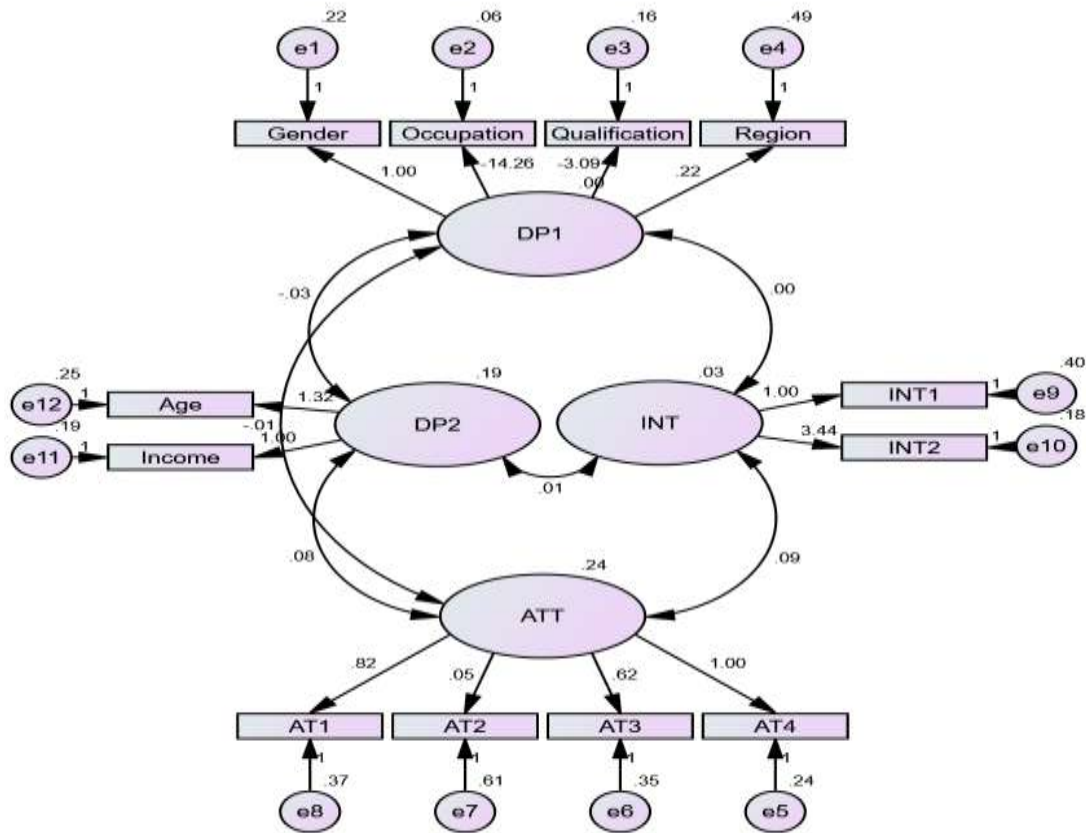


Fig 1: Structural Equation Model

5.1 CONFIRMATORY FACTOR ANALYSIS PATH DIAGRAM

Interpretation:

This path diagram is developed in order to establish and measure loading of factors affecting demographic profile, factors affecting attitude of sample respondent towards use of Social Media platform for online banking and its impact over interest in using Social Media platform for online banking. As shown in path diagram there are only two independent variables which are showing negative relation and loading on their dependent variable i.e. Occupation and Qualification over Demographic profile. Factors measuring attitude are highly fit for this model and perfectly measuring dependent variable i.e. attitude. Demographic profile is not showing any acceptable loading of factors on interest of users, but demographic profile has significant effect on attitude of sample respondents. Attitude has highest loading over interest of respondent's i.e. 0.24 (24%)

Model Fit summary:

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	30	239.333	78	.000	3.036
Saturated model	78	.000	0		
Independence model	12	1363.213	66	.000	20.655

**Interpretation:**

As shown in model fit summary table, CMIN/DF value is in acceptable range of less than or equal to 3; the developed model found good in fitting and describing the proposed relation. P value less than 0.05 which is highly significant at 0.000 level explains to accept all alternate hypotheses and reject null hypotheses. RMR, GIF, NCP and RMSEA values are also in acceptable range i.e. 0.9 and above which justified the developed model on the basis of hypotheses.

**6. LIMITATIONS AND FUTURE SCOPE:**

This study is dependent on selective samples from all over country which are selected based on the contacts of the researcher and with snowball sampling technique. Every respondent did not have a chance to give their opinion from selected geographical regions and hence outcome of this study cannot be generalized to all geographical locations. This research survey is made online and considering that respondents are already aware about online banking transaction facility through Social Media. Future studies can focus this dimension of checking these possibilities through awareness analysis of online banking facility through Social Media in separate geographies like urban and rural. Further studies also can test for feasibility and acceptance of online banking facility through Social Media.

**7. CONCLUSION AND DISCUSSION:**

Use of Social Media platforms for online banking transaction is independent irrespective of the gender of respondents which means male and females are having no difference in opinion about Social Media use. People from younger age group are more interested to use Social Media as online banking platform from western region as region of precedence has significant relation over dependent variable that is interest of respondents. Irrespective of occupation people are interested to use Social Media as online banking platform. Attitude of Social Media user is key factor of interest in using Social Media as online banking platform as it defines user's opinion about safety, security and their perception about such use of Social Media. Considering the outcome of this research acceptance for Social Media is directly proportional to the positive strength of respondent's attitude about Social Media. Factors like trust on Social Media, Purpose of Social Media and Socio-tech savvy nature of user and likeliness to do Online Banking through Social Media are affecting interest of Social Media users for online banking transactions through Social Media. This research is concluded for positive perception and acceptance for social media banking by people but this opinion may vary according to different geographic and demographic classes of respondent; hence, further research should give importance to check consumer's perception considering these factors.

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