Examining Factors Affecting Customers Adoption towards E-banking services: An Empirical Investigation in Manipur

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Abstract

Purpose: E-banking has become a new norm in the banking sector. The main aim of the study is to examine factors affecting E-banking services adoption in Manipur. The proposed model for the study is developed based on Technology Accepted Model.

Design/Methodology/Approach: A positivism philosophy using a cross-sectional research design employing a standardized questionnaire to examine the factors affecting E-banking adoption in Manipur. The Convenience sampling method is used for the study. The study received a total of 164 questionnaires, out of which 145 completed questionnaires were collected. IBM–SPSS was used to analyze the data collected through the questionnaire. Factor analysis along with regression is used to test the hypotheses. A Reliability test is conducted to test the scale, and Principal Component Analysis is used to extract variance.

Findings: The statistical analysis reveals that out of 25 factors, six factors have been extracted, in which the Eigenvalue is more significant than 1.0. Perceived ease of use, Attitude, and Trust is found to be positively substantial towards adoption. Perceived security, Perceived Usefulness, Intention to use failed to influence the adoption of E-banking services in Manipur.

Research implication: There can be variations in results depending on the sample size. The analytical results may limit the generalization as per the researcher's knowledge. So, in-depth studies in similar focus areas add more favorable factors that the present study failed to bring out.

Originality/Value: This study draws the attention of Customers towards the adoption of e-banking services. It examines the factors influencing the customers' adoption of E-banking in Manipur.

Keywords: E-banking, Technology Accepted Model, Intention, Adoption, Factor Analysis, Regression

1. Introduction

Bank has become part and parcel of all economic and financial activities around the globe. With the advent of Information Technology, Banking has as an aid to the economy. The fast pace of changes has radically and perceptibly transformed the operational environment of the banking sector. E-banking is defined as the automatic delivery of new and traditional banking products and services directly to customers using an electronic platform or electronic and interactive communication channels. E-banking has witnessed sustained and robust growth in banking as E-banking is the cheapest source of providing banking services to customers either from home or office. The concept of e-banking are based upon internet development, design, and implementation of financial services. The present prospect economy depends on the success and growth of the banking sector in the country, as banking is considered the lifeline of the economy.

The Reserve Bank of India (RBI) is the apex banking regulator in India. It has focused on the development of E-banking services since its introduction in 1996 in India. They were strategizing a series of policies and frameworks towards a secure, safe, and efficient payment mechanism. E-banking has provided various benefits to the bank in the form of manual labor, reduction in transaction cost, transaction ease, thus reducing time and human error in dealings, automatic delivery of information to respective customers. As coined by Gandhi, "Customer is the King", a customer does enjoy certain benefits available in using E-banking such as convenience, accessibility of 24x7, lower transaction cost, straightforward procedure, quick in and out experience thus reducing time and cost constraint. All banks now adopting E-banking services enable them to improve their services towards their customer, productivity, and efficiency in dealing with different problems encountered in the past. To date, the Lack of e-knowledge and Trust in the services poses a challenge to customers in adoption.

E-banking has become a new norm in the banking sector. The concept and scope of E-banking are still evolutionary as it broke the barrier of branch banking. The growth of e-banking users is widely visible among the general public all over World and India, and particularly in Manipur. The present study delves to find out the factors affecting customers' adoption of e-banking services. In the demographic, Millennials (1977–1995) are Centennials (1996–now) are the types of generation taken here for the study. The Construct taken for the study derived from Technology Accepted Model (TAM). The Construct is perceived ease of use (PEOU), perceived usefulness (PU), perceived security (PS), Attitude (AT), Trust (TR), Intention to use E-banking (ITEB), and Adoption (AD).

2. Review of Literature

The following review is focused on similar studies with specific references with the title of the study. The literature review was listed in chronological order. **Suh and Han (2002)** stated that ease of use and usefulness is fundamental in accepting Internet banking. The primary factor in adopting any banking service is Trust. Several factors that influenced the adoption of E-banking include customer service enhancement and cost competitiveness

of its service. But factors such as perception of associated risk and lack of perceived need explain why the consumers are reluctant to use internet banking. **(Pikkarainen et al. 2004)** The study reveals that the acceptance of online banking services has been increasing in many parts of the world, and leading e-banking countries have exceeded 50 percent. The study investigates online banking acceptance in the light of the traditional technology acceptance model. Focus Group is used to interview banking personnel. With a 268 sample size, tested the model. The findings indicate that perceived information and usefulness are the main factors influencing acceptance in online banking**. (Gerrard et al. 2006)**.

In their study **Medyawati et al. (2011),** pointed that computer ability does not positively influence a person's to perceived ease of use. Security, privacy, interface design also significantly impact customers' perception of its usefulness. Perceived ease of use towards the Attitude and Attitude towards the real-time use of e-banking. In their study, **Palani and Yasodha (2012)** reveal that demographic factors like education, gender, and income play a crucial role in molding customers' perceptions about E-banking services offered by Indian Overseas Bank. **Al-Smadi (2012),** in the study entitled "Factors affecting adoption of electronic banking: an analysis of the perspectives of Bank's customers," is a study conducted in Jordan with 387 valid questionnaires collected through random sampling. TAM and Theory of Planned Behavior were the models adopted. Findings from the survey reveal the variable uncertainty avoidance shows a positive and significant impact on perceived ease of use and usefulness**.**

El-Qirem (2013), the purpose is to conduct a study in factors affecting acceptance of E-banking by non-users. It concluded that an extension of TAM (Technology Accepted Model) was proposed to enhance the taken elements. Trust has also been an essential factor in influencing the adoption of internet banking among the customers of E-banking **Shahibi et al. (2014)**. **Mahmoud (2016)** study assumes that perceived risk and perceived trust strongly correlate with internet banking adoption. It was found Perceived ease of use and usefulness to be highly significant. **Bambore and Singla (2017),** in their study titled "Factors affecting e-banking adoption and its impact on customer satisfaction: a case study of Ethiopian banks," it was found that perceived ease of use and usefulness to be significantly influencing the Intention of electronic banking users. Similarly, intention act as a factor influencing actual use, which ultimately affects customer satisfaction. An Inferential research design was adopted for the study. It analyzed the impact on TAM through SEM. **Al-Sharafi et al. (2017)** study seeks to demonstrate trust, perceived ease of use, and perceived usefulness influence in using online banking services.

In their study **Ghani et al. (2017)** disclose that customer satisfaction played a mediating role in the adoption of internet banking along with other factors like perceived ease of use, perceived usefulness, perceived security. Customers are prone to adopt if it provides seamless and hassle-free operations. In their study **Abu et al. (2020)** investigate the millennials and Generation Z perception toward Fintech services, usage, Intention, and behavioral aspect. Questionnaire-based techniques were used for the study, revealing that trust, reliability, ease of use are the main issues in Fintech. The study concluded that millennials are more aware of Fintech services than Generation Z. **Pratima and Babu (2020)** explores factors affecting Intention to adopt mobile banking services among

millennial customers. The results show that performance efforts, social influence, trust, reliability, and security positively impact customers' attitudes towards Intentions.

3. Need and Objectives of the Study

After going through a series of literature in the same area, I pointed out that research is required in E-banking adoption in India in general and particularly in Manipur.

- The study's main aim is to examine the factors affecting e-banking adoptions among the millennials and Centennials customers in Manipur.

4. Methodology

Fred D. Davis (1985) introduced TAM used for modeling user acceptance of information systems. The proposed model is driven by Technology Accepted Model (TAM). The Construct is perceived ease of use (PEOU), perceived usefulness (PU), perceived security (PS), Attitude (AT), Trust (TR), Intention to use E-banking (ITEB), and Adoption (AD). The total number of items in the Construct is 25. Below is the proposed model of the study.

4.1. Hypotheses

Based on the proposed model, the following hypotheses have been generated for the study.

H1: Perceived ease of use of E-banking services positively affects Intention towards E-banking adoption.

H2: Perceived usefulness of E-banking services positively affects Intention towards E-banking adoptions.

H3: Perceived security of E-banking service positively affects Intention towards E-banking adoptions.

H4: Attitude in E-banking services positively affects Intention towards E-banking adoptions.

H5: Trust in E-banking services positively affects Intention towards E-banking adoptions.

H6: Intentions towards E-banking positively affect E-banking adoptions.

4.2. Research Methodology

The philosophy of the present research is Positivism as it adheres to the view that only factual knowledge gain through observation, including measurement. It also shows the validity and objectivity of research. The purpose is to test the hypotheses and draw significant conclusions and findings based on the results. The study is deductive and cross-sectional. A quantitative methodology employing a structured, standardized questionnaire is to be used to address the research objectives. The questionnaire was framed using previously studied questions. Data were collected online. Convenience sampling is adopted for

collecting the data. A total of 164 questionnaires were collected; only 145 were considered usable, with a response rate of 88.4 percent.

4.3. Measures

The questionnaire is differentiated into two sections. The first section consists of Construct included in the proposed theory like Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Perceived Security (PS), Trust (TR), Attitude (AT), Intention to use E-banking (ITEB), and Adoption (AD). The Items of the Construct were answered using a 7-point Likert scale ranging from '1' (Strongly Disagree) to '7' (Strongly Agree). The second section consists of the Demographic Profile of the respondents like Age, Gender, Qualification, Generation to which they belong, and two Dichotomous questions of E-banking

TABLE1. Research variables used and their sources

Sl.no	Variables	Items	Sources
1	Perceived Ease of use	4 items	Cheng et al. (2006)
2	Perceived Usefulness	4 items	Cheng et al. (2006)
3	Perceived Security	4 items	Hua (2009); Lallmahamood (2007)
4	Trust	4 items	Chaouali et al. (2016); Alalwan et al. (2016)
5	Attitude	4 items	Nor and Pearson (2007)
6	Intention to use E-banking	3 items	Alalwan et al. (2016) ; Sathye (1999)
7	Adoption	2 items	Lin (2011)

5. Analysis and Results

TABLE 2. Demographic profile of the respondents

Variables	Category	Frequency	Percentage (%)
Gender	Female	78	53.8
	Male	67	46.2
Age	20–30	104	71.7
	30–40	35	24.1
	40–50	6	4.1
Generations	Millennials or Generation Y	95	65.5
	Centennials or Gen Z	50	34.5
Qualification	Undergraduate	31	21.4
	Post-Graduate and Professionals	114	78.6
Do you know E-banking services?	Yes	160	97.6
	No	4	2.4
Do you use E-banking services?	Yes	145	88.4
	No	19	11.6

Source: Primary data

The Demographic Profile of the respondents consists of variables like Age, Gender, Generation, Qualification, knowledge of E-banking, Usage of E-banking services. From the table, it is seen 164 duly filled questionnaires is collected for the study. Out of which, 145 (88.4%) were found usable. Regarding age, Most of the respondents are young, with the age category 20–30 i.e., 104 (71.7%). For the study, the variable Generations is categorized into millennials (1977–1995) and centennials (1996 and below) to examine the adoption rate of E-banking services. Out of 145 respondents, 95 are millennials (65.5%) and 50 respondents of centennials (34.5%). Millennials show a higher level of Intention to adopt E-banking than Generation Z, **Abu-Daqar (2020)**. Regarding Qualification, most of the respondents are from Post-Graduate and Professional 114 (78.6%) compared with Under-Graduate 31 (21.4%). It is seen that 160 (97.6%) respondents know e-banking services provided by various financial institutions. But, the number differs in actual use 145 (88.4%). In conclusion, there is a lack of proper awareness regarding the various facilities included in E-banking services.

Table 3. Reliability analysis

The scales used in the study were adapted from various studies and have been validated. For validity assessment Cronbach's Alpha is checked.

Case Processing Summary			
Cases		N	%
	Valid	145	88.4
Excluded[a]		19	11.6
Total		164	100

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.917	.916	25

Reliability test is used to test the reliability of scale used for data collection. Cronbach's Alpha is considered to be a measure of scale reliability. Items having Cronbach's alpha value of .70 and more are considered adequate. With the help of IBM SPSS 23, 25 items were taken for the study. So, in this study, we have 0.**917** Cronbach's Alpha as the value, which shows a high level of internal consistency in the present research. The Case processing summary shows that 164 duly filled questionnaires were collected. Out of which, took only

145 usable questionnaires for further analysis, with a total percentage of 88.4% out of 100 %. The remaining 19 (11.6%) were excluded.

TABLE 4. Factor analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0.889**
Bartlett's Test of Sphericity	Approx. Chi-Square	
		2066.698
	df	300
	Sig.	0.000

Kaiser-Meyer-Oklin is a measure of sampling adequacy. For adequacy of sampling, the measurement should be greater than 0.5 for satisfactory factor analysis to proceed. And Bartlett's test indicates a strong relationship among the variables. So, the table shows that KMO sampling adequacy is 0.889 and Bartlett's test of Sphericity 0.000, which is highly significant. Thus, concluding that Factor analysis is appropriate for the data.

TABLE 5. Descriptive statistics of the variable

SL.no	Variables	Items	Factor loadings
1	Perceived ease of use	Using the e-banking service is easy for me.	0.655
		I find my interaction with the e-banking services clear and understandable.	0.839
		It is easy for me to become skillful in the use of the e-banking services.	0.822
		Overall, I find the use of the e-banking services easy.	0.729
2	Perceived usefulness	Using the e-banking would enable me to accomplish my tasks more quickly	0.596
		Using e-banking would make it easier for me to carry out my tasks.	0.770
		I would find e-banking useful.	0.776
		Overall, I would find using e-banking to be advantageous.	0.726
3	Perceived Security	I would feel secure sending sensitive information across the e-banking.	0.820
		E-banking is a secure means through which to send sensitive information.	0.890
		I would feel safe providing sensitive information about myself over the e-banking.	0.875
		Overall, E-banking is a safe place to transmit sensitive information.	0.905
4	Trust	I believe that e-banking is trustworthy.	0.557
		I trust in e-banking.	0.657
		I feel assured that legal and technological structures adequately protect me from problems on e-banking.	0.687
		E-banking has the ability to fulfill its task.	0.621

5	Attitude	I think that using e-banking is a good idea.	0.662
		I think that using e-banking for financial transactions would be a wise idea.	0.755
		I think that using e-banking is pleasant.	0.743
		In my opinion, it is desirable to use e-banking	0.755
6	Intention to use	I intent to continue using E-banking in the future.	0.589
			0.731
		I will recommend others to use E-banking.	
		I am satisfied with the advantages that e-banking usage brings.	0.716
7	Adoption of E-Banking	I will adopt e-banking as soon as possible.	0.498
		I will regularly use e-banking in the future.	0.448

TABLE 6. Total variance analysis

	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.976	35.902	35.902	8.976	35.902	35.902
2	2.905	11.620	47.522	2.905	11.620	47.522
3	1.636	6.543	54.065	1.636	6.543	54.065
4	1.383	5.531	59.596	1.383	5.531	59.596
5	1.296	5.186	64.782	1.296	5.186	64.782
6	1.064	4.255	69.037	1.064	4.255	69.037
7	0.976	3.904	72.941			
8	0.900	3.599	76.540			
9	0.624	2.496	79.036			
10	0.563	2.253	81.289			
11	0.517	2.068	83.357			
12	0.450	1.799	85.155			
13	0.431	1.724	86.879			
14	0.422	1.687	88.566			
15	0.390	1.560	90.126			
16	0.344	1.374	91.501			
17	0.339	1.355	92.856			
18	0.314	1.255	94.111			
19	0.287	1.147	95.258			
20	0.264	1.055	96.313			
21	0.226	0.903	97.216			
22	0.218	0.870	98.086			
23	0.191	0.763	98.849			
24	0.154	0.616	99.466			
25	0.134	0.534	100.000			

Extraction Method: Principal Component Analysis and Varimax Rotation

The descriptive statistics table shows that the items in the variables with less than 0.50 factor loadings mean that the item is unfit to describe the variable. As minimum factor loadings should be 0.50, Items having low factor loading imply that the particular items is considered useless to measure the constructs or because of other reasons like the similar statement, biased statement. From the table, the two items of Adoption show less factor loading as 0.498 and 0.448, respectively.

The Construct Validity of the data was examined through Exploratory factor Analysis. The total variance explained that the extraction method as Principal Component Analysis with rotation method as Varimax with Kaiser Normalization had extracted 6 factors out of 25 factors with Eigenvalue more than 1.0, which accounted for 69.03% of the variance, which is found significant. As a rule of thumb, cumulative frequency should be 60% or more.

TABLE 7. Regression analysis results

DV	IV	Hypotheses	R Square	t	Beta	Sign
Intention	PEOU	H1	0.386	2.187	0.205	**0.030**
(ITEB)	PU	H2		0.609	0.057	0.544
	PS	H3		−0.079	−0.005	0.938
	AT	H4		3.255	0.298	**0.001**
	TR	H5		2.122	0.187	**0.036**
Adoption	INTB	H6	0.17	1.565	0.042	0.120

Here,
DV–Dependent variable
IV–Independent variable

TABLE 8. Hypotheses testing

SL.no	Hypotheses	Results
1	Perceived ease of use of E-banking services positively affects intention towards E-banking adoption.	**Significant**
2	Perceived Usefulness of E-banking services positively affects intention towards E-banking adoptions	**Not significant**
3	Perceived security of E-banking service positively affects intention towards E-banking adoptions.	**Not significant**
4	Attitude in E-banking services positively affects intention towards E-banking adoptions.	**Significant**
5	Trust in E-banking services positively affects intention towards E-banking adoptions.	**Significant**
6	Intentions towards E-banking positively affect E-banking adoptions.	**Not significant**

From the above Tables 7 and 8, Regression Analysis results and Hypotheses testing, it is seen that the results specify a significantly positive influence on factors affecting E-banking adoption. The three variables, perceived ease of use, Attitude, and Trust, influence E-banking adoption with $p < 0.05$. It has resulted in support on H1, H4, and H5. However, the impact of perceived usefulness, perceived security towards Intention failed to be significant. Thus, rejecting H2 and H3. H6 was unable to be substantial, and it reveals

that Intention towards E-banking does not positively impact e-banking adoption among the respondents.

6. Discussion and Conclusion of the Study

With the development and infusion of Technology in Banking, E-banking systems have originated. But, the new changes in E-banking are at a developing stage in India. However, it is at the infant stage in Manipur. The adoption of E-banking is seen much higher among the Millennials than the centennial generation. All the respondents know what E-banking is, but comparatively less applicability is seen. There is a lack of e-knowledge regarding E-banking services that financial institutions provide. As the saying goes, equal development brings a similar challenge in adoption. Out of the many factors like Perceived ease of use, perceived usefulness, perceived security, Trust, Attitude, Intention. Perceived security is the main reason why customers are still reluctant to adopt E-banking. Security threat and risk held a significant share in instilling fear in the adoption of E-banking services.

The findings of the results reveal that perceived security and perceived usefulness do not significantly influence the adoption of E-banking among the respondents in Manipur. Innovative technology in banking brings more opportunities and an equal amount of challenges that need to be tackled promptly. Here, government, especially the finance department, in collaboration with the stakeholders of respective banks, should organize more awareness programs among the users of E-banking in the state and the country to fully utilize the services provided by the banks in the field of E-banking services. The drawback of the study is that the questionnaire has been collected in time-bound periods. But, there can be variations in results if the sample size is large and proper time allotment. Further in-depth studies are to be done in a similar focus area, which this study failed to bring out. To conclude, E-banking has become part and parcel of our life. And during the difficult time of COVID, E-banking has become our best friend, which we rely on.

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