

USING STRUCTURAL EQUATION MODELING: THE IMPACT OF FACTORS INFLUENCING ON DIGITAL BANKING ADOPTION IN INDIA THROUGH FINTECH APPLICATIONS - A CASE STUDY OF RANGA REDDY DISTRICT OF TELANGANA STATE

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Abstract

Purpose: Appropriate research instruments were used to conduct the current investigation. With the aid of 200 Axis Bank customers' replies, we were able to conduct research and provide some recommendations. Although digital banking is quick and easy, it has a number of security flaws. For the protection of their clients when they conduct a variety of financial activities online, banking institutions have implemented a number of security measures. Design/Methodology/Approach: The goal of this study is to identify the issues that consumers encounter while using digital banking services and to assess their level of knowledge and understanding about digital banking security. I selected the sample size of 200 customers of Axis bank Hyderabad of Telangana state. Stratified random sampling technique is used through Structure Ouestionnaire. Originality/Value: In order to determine the internal consistency, or the degree to which a collection of items are connected, this research makes use of reliability tests such as Cronbach's alpha test. As a measure of the dependability of the scale, it is widely used. A "high" alpha value does not always indicate that the metric is one-dimensional and one way to assess dimensionality and Structure Equation Modelling is via exploratory factor analysis. Findings: Findings from studies on digital banking contributed to the development of a precautionary checklist for various problems that can arise in this age of digital banking. Moreover, for the purpose of enhancing the security of digital banking systems, there should be a strong and comprehensive security policy implemented by banks and laws passed by regional or state governments.

Keywords: Digital Banking, Customers Perception, Awareness, SEM Model.

JEL Codes: D81, D82, D86, D72, D78, D69

1. INTRODUCTION

Due to digital banking, you no longer need to physically visit a bank office to do any of your regular banking business; you can do it whenever you choose, from any location. Using a mobile phone, tablet, or laptop, you may do digital banking. This is the essence of India's digital banking system. Offering a wide range of services, including loans, debit and credit card issuance, online banking, and even more personalised options, banks compete for customers. Yet, many commercial banks still provide some basic modern services. There are a lot of terms used to describe electronic banking, including web banking, online banking, e-banking, virtual banking, and web-based banking. Simply said, it's the distribution of various financial services and goods using electronic and telecommunications networks. Customers have the convenience of accessing their accounts and handling multiple transactions from any internet-connected device, thanks to e-banking. With the third-largest internet population in the world (after only





China and the US), India offers unparalleled potential for growth in the internet sector in the years to come. As a whole, the banking industry has reaped many benefits from the rise of the Internet, and the expansion of financial technology products has been nothing short of phenomenal. Most individuals like online banking because it allows them to pay for services without leaving the comfort of their own home. Customers are able to finish their transactions much more quickly, which saves them time and effort. Accessing one's bank statement, making deposits, checking one's balance, and reviewing one's most recent transactions are just a few of the many useful features offered by online banking systems. Despite these benefits, the safety of clients' financial data is a top priority for any bank.



Classification of Digital Banking:

Classification: 1

For the most part, this is the minimum level of online banking services that banks provide. The bank provides its customers with statistics and information about its services and products via this service. In addition, certain financial institutions may also reply to a query by email.

Classification: 2

Among the many services offered by banks, this one allows customers to do things like see their account balance, apply for new services, and send instructions. Still, when it comes to customer information and accounts, banks won't let their customers perform any fund-based transactions.

Classification: 3

In the third group, customers are able to do things like pay bills, buy and sell stocks, transfer money, and so on via their bank accounts. Electronic banking services are offered by the majority of traditional banks as an additional method of customer assistance. In addition, the web and other electronic delivery channels are the primary means by which many modern banks provide financial services. Similarly, there are a small number of banks that operate only online and do not have any physical branches around the nation.





Classification of Digital Banking Sites:

- Transactional Websites: Through these platforms, customers are able to complete transactions directly on the bank's website. In addition, the scale of these transactions might range from small requests for bank balances from individual customers to massive transfers of liquid assets between companies. The following table details many common e-banking services offered by banks and other financial organisations, both for wholesale and retail customers.
- Informational Websites: In general, these websites tell customers about the bank and the things it offers.
- Wholesale services by banks: Include things like managing accounts and cash, processing small company loans, approving or advancing funds, conducting business-to-business payments, administering employee benefits, and pensions.
- Retail services by banks: Include things like managing your accounts, paying bills, creating new accounts, investing and brokerage services, applying for and being approved for loans, and aggregating your accounts.

2. REVIEW OF LITERATURE:

- Hamidi (2023): researched how the introduction of mobile banking affected customer engagement and happiness via the use of the CRM system, the most crucial component of the banking business. Additionally, customer relationship management is seen as playing an essential part in mobile banking to increase customer happiness. Research using statistical methods assessed the nature of the conversation between the bank's client and its customer sector. Customer interactions and satisfaction are positively affected by the results of the statistical study.
- Geebren (2023): Findings from this research highlight the significance of happy customers in mobile eco-systems that make use of online banking, especially in underdeveloped countries. Examining the role of trust in customer satisfaction with mobile banking was part of this process. Trust showed that customer contentment has a positive effect on the results of structural modelling utilising partial least squares (PLS-SEM) approaches used to investigate the data in order to estimate consumer satisfaction.
- ✤ Gao (2022): The first trust theoretical model drew attention to the factors that help and those that hurt m-payment service users' confidence. Partial least squares structural modelling (PLS-SEM) was used to evaluate the connections in the first trust theoretical model. There are several potential applications for the results in the field of mobile payment uptake research and practice. Our present model successfully explained 52.3% of the variance in intent to use.
- Hentzen JK (2022): An explanation of how a retirement app may help individuals arrange for their post-retirement strategy and a mobile technology that permits critical engagement were both provided in this research.





- Haleem (2021): We assessed 440 pension fund participants in Australia using survey data from the literature that was already accessible. According to the results, consumers' level of financial security, financial self-efficacy, involvement in retirement planning, consideration of future consequences, and perceived usefulness of a mobile retirement app all influence their expected engagement, which in turn affects their goal to adopt the app.
- Zhu (2021): This looked explored how rural areas in six different regions of China employ current technological concepts, such as mobile banking. The results show that routes of mass and interpersonal communication are more influential than channels of organisational communication. Since mobile banking has the potential to help rural residents overcome their limited access to banking services and products, it merits investigation.
- ✤ Afeti et al. (2020): In order to facilitate payments to small enterprises, this article created a mobile payment system. The research makes use of the task-technology fit (TTF) theory and the transaction cost theory as its underlying theoretical framework. The study's results show that 20 micro-businesses whose data was based on qualitative analysis reaped strategic and operational advantages from accepting mobile payments.
- Alamoudi et al. (2020): We examined customers' views about mobile shopping in general shops, as well as their transaction speed, optimism, usefulness, optimism, and ease of use, and we found that their acceptance of mobile technology looked different. A grand number of 351 people filled out the survey. If the mobile shopping platform is easy to understand and use, customers will be more inclined to utilise it.
- Jebarajakirthy et al. (2019): A thorough moderated mediation approach was used in this research to assess the impact of online convenience factors on the adoption of mobile banking. To put these predictions to the test, we use process macros and covariance-based structural equation modelling. The purpose of this research is to find out what factors, if any, impact the likelihood that people would use mobile banking services.
- Abdinoor et al. (2019): Use of a technological acceptance model was used to examine the uptake of mobile banking services in Tanzania. Based on the collected data, a random sampling procedure was used to choose the sample. In the sample, we found both mobile financial service users and non-users. Studying the factors that influence the adoption and engagement of mobile technology to assist with banking services and activities, Zhang et al. (3) looked at how consumers utilise it. For this study, we use structural equation modelling to learn how customers plan to use mobile banking. The outcome analyses the spread of mobile banking applications as a means for customers to access and use financial services.

3. STATEMENT OF PROBLEM

Mobile banking, often known as M-banking, refers to the practice of conducting financial operations, such as account exchanges, bill payments, credit applications, balance checks, and more, using a mobile device, such as a cell phone or Personal Digital Assistant (PDA).





The current research focuses on the banking industry, which has shown tremendous growth and success in relation to digital banking services and products. Digital banking transactions have increased dramatically as a result of this development. Customers love the convenience and speed of these transactions. Among the many industries that have made extensive use of information technology to facilitate financial transactions and expand banking services and possibilities for consumers, the banking sector stands out.

4. RESEARCH GAP

In addition to illuminating the present state of digital banking security, this survey also shows how well-informed consumers are about digital banking, how they feel about it, and how satisfied they are with the way it works with new technology. The evolution of the banking business in tandem with technological progress may be better understood with this information. Additionally, it is useful for comprehending the various digital banking services. The advantages of digital banking to consumers and the banking sector may be better grasped with this information in hand.

5. OBJECTIVES OF THE STUDY:

- To study Digital banking in India
- ✤ To study the Impact of factors Influencing on Digital Banking Adoption in India.

6. HYPOTHESES OF THE STUDY

- H0: There is no Impact of factors influencing on Digital Banking Adoption in India.
- H1: There is no Impact of factors influencing on Digital Banking Adoption in India.

7. RESEARCH METHODOLOGY

Study Period:

The period of the study is January month of 2024 year and the data collected data from customers of Axis Bank and the sample size is 200 customers. Across the Hyderabad Regions of Telangana state.

Stalactitical tools to be used:

- Cronbach's alpha test
- Descriptive Statistics
- Structure Equation Model.





8. RESULT AND DISCUSSION

Table 1: Displays the Socio-Economic Profile of Digital Banking Clients In Hyderabad,Telangana

	Cotto com	Specification of Res	spondents	Number of	Percentage of
Sl No	Category	Male	Female	Respondents	Respondents (%)
	Age Specification				
	10-20	10	05	15	7.5
	21-30	25	15	40	20
	31-40	15	18	33	16.5
	41-50	14	10	24	12
01	51-60	36	22	58	29
01	61- Above	20	10	30	15
Total		120	80	200	100
	Gender				
	Male	58	72	130	65
02	Female	42	28	70	35
Total		100	100	200	100
	Qualifications				
	SSC	4	6	10	2
	Intermediate	12	8	20	10
	Graduation	40	30	70	35
03	Post Graduation	38	30	68	34
05	Professional Degree	8	4	12	6
	PhD	12	8	20	10
Total		114	86	200	100
	Occupation				
	Agriculture	13	10	23	11.5
	Business	27	20	47	23.5
	Consultancy	8	4	12	6
	Government Job	17	4	21	10.5
	Private Job	16	20	36	18
04	Retired Employees	4	0	4	2
	Politician	7	10	17	8.5
	Student	32	8	40	20
Total		124	76	200	100
	Income Specification				
	Below 10,000	20	15	35	15.5
	10,000-20,000	13	10	23	11.5
	20,000-30,000	18	15	33	16.5
	30,000-40,000	14	10	24	12
05	40,000-50,000	33	20	53	26.5
00	50,000-1,00,000	6	8	14	7
	1,00,000 and above	10	8	18	9
Total		114	86	200	100
	Marital Status				
	Single	86	22	108	54
06	Married	50	42	92	46





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	Others	0	0	0	0
Total		166	34	200	100
	Size of a Family				
	Up to 2	36	20	56	26
	02-04	18	20	38	19
07	04-06	14	20	34	16
	06-10	40	32	72	36
Total		108	92	200	200
	Account Type				
	Current Account	23	10	33	16.5
	Savings Account	50	27	77	38.5
08	Deposit Account	30	14	44	22
	Loan Account	30	16	46	23
Total		133	67	200	100

Interpretation:

In the Hyderabad area of the state of Telangana, the chosen Internet banking customers' socioeconomic profile is shown in the above table. In this profile include Age, Gender, Qualification, Occupation, Salary, Type of Account, Marital and Family members. 16.5 % of customers are age between 31-40 age group holders. 35% of people are graduated. 23.5% are doing business. 54% are married people. 36% are big family sized. 38.5% are having Saving bank account.

Table 2: Digital Banking Awareness Level of Axis Bank Customers Hyderabad Region,Telangana

SI No	Become Aware through various Modes	No. of Respondents	Percentage of Respondents (%)
01	Advertisement	24	12
02	News Paper	08	04
03	Parents	08	04
04	Relatives	12	06
05	Television	10	05
06	Friends	12	06
	•		
07	Bankers	18	09
08	Digital Media	52	26
09	Social Networks	24	12
10	Instagram	32	16
	TOTAL	200	100





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Correlation with Digital Banking

	Correlation of Traditional Banking System												
Description	Correlations	AD	NS	PS	RS	TV	FRDS	BS	DM	SN	IM		
	Pearson Correlation	1	0.12	-0.21	-0.231	0.049	0.154	-0.066	-0.273	-0.282	-0.091		
AD	Sig. (2-tailed)		0.721	0.578	0.067	0.787	0.472	0.553	0.158	0.139	0.886		
	Pearson Correlation	0.012	1	-0.029	0.099	-0.034	.353*	0.048	-0.128	-0.023	-0.222		
NS	Sig. (2-tailed)	0.721		0.843	0.492	0.816	0.012	0.743	0.375	0.874	0.121		
PS	Pearson Correlation	-0.031	-0.029	1	0.015	0.157	0.071	-0.141	-0.026	-0.018	0.138		
	Sig. (2-tailed)	0.548	0.843		0.917	0.275	0.625	0.328	0.858	0.902	0.341		
RS	Pearson Correlation	-0.251	0.099	0.015	1	-0.077	-0.239	0.04	0.123	0.209	.339*		
	Sig. (2-tailed)	0.067	0.492	0.917		0.593	0.094	0.781	0.395	0.145	0.016		
TV	Pearson Correlation	0.079	-0.034	0.157	-0.077	1	-0.052	-0.12	0.077	-0.09	0.229		
	Sig. (2-tailed)	0.787	0.816	0.275	0.593		0.718	0.405	0.596	0.534	0.11		
FRDS	Pearson Correlation	0.194	.353*	0.071	-0.239	-0.052	1	-0.111	286*	-0.121	-0.246		
	Sig. (2-tailed)	0.402	0.012	0.625	0.094	0.718		0.443	0.044	0.403	0.086		
BS	Pearson Correlation	-0.016	0.048	-0.141	0.04	-0.12	-0.111	1	.539**	.520**	0.254		
	Sig. (2-tailed)	0.523	0.743	0.328	0.781	0.405	0.443		0	0	0.075		
DM	Pearson Correlation	-0.233	-0.128	-0.026	0.123	0.077	286*	.539**	1	.764**	.317*		
	Sig.(2-tailed)	0.148	0.375	0.858	0.395	0.596	0.044	0		0	0.025		
SN	Pearson Correlation	-0.252	-0.023	-0.018	0.209	-0.09	-0.121	.520**	.764**	1	0.274		
	Sig.(2-tailed)	0.169	0.874	0.902	0.145	0.534	0.403	0	0		0.054		
IM	Pearson Correlation	-0.071	-0.222	0.138	.339*	0.229	-0.246	0.254	.317*	0.274	1		
	Sig. (2-tailed)	0.886	0.121	0.341	0.016	0.11	0.086	0.075	0.025	0.054			
* At the 0.05 le	evel, the correlation is sig	gnificant.											

Interpretation:

Above Table shows that Digital Banking Awareness Level of Axis Bank Customers of the selected Internet banking users in Hyderabad region of Telangana state. In the table 12% respondents are known through Advertisement. 26% respondents are highest on Digital media flat form. Only 4% respondents are Newspapers and Parents through.

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	Eastang Influencing the Digital	Parameters										
Sl No	Participal Participal	Strongly	Agree	Agree		Neutral		Disagree		Strongly Disagree		
	Dalikilig	NR	%	NR	%	NR	%	NR	%	NR	%	
01	Perceived Ease of Use	52	26	69	35.5	14	12	38	19	27	13.5	
02	Perceived Trust	69	34.5	52	26	38	28	14	12	27	13.5	
03	Bank Credibility	52	26	69	35.5	14	12	38	19	27	13.5	
04	Perceived Risk	68	34	53	26.5	40	20	14	12	25	12.5	
05	Convenience	40	20	68	34	53	26.5	25	12.5	14	12	
06	Friends / Relatives Advice	52	26	69	35.5	14	12	38	14	27	13.5	
07	Personality of Bank Manager	52	26	69	35.5	14	12	38	14	27	13.5	
08	Popularity Of Banks	69	34.5	52	26	38	28	14	12	27	13.5	
- 09	Quality Of Service	52	26	69	35.5	14	12	38	19	27	13.5	
10	Convenience	69	34.5	52	26	38	28	14	12	27	13.5	

Table 3: Factors Influencing the Digital Banking Facility

Correlation with Factors Digital Banking

	Correlation of Digital Banking System												
Descrip tion	Correla- tions	PEU	PT	BC	PR	cv	FRA	PBM	PB	QS	CC		
	Pearson Correlation	1	0.52	-0.83	264	.035	.106	087	208	219	020		
PEU	Sig. (2-tailed)		.721	.578	.067	.787	.472	.553	.158	.139	.886		
РТ	Pearson Correlation	.051	1	029	.099	034	.353*	.048	128	023	222		
	Sig. (2-tailed)	.722		.843	.492	.816	.012	.743	.375	.874	.121		
BC	Pearson Correlation	083	029	1	.015	.157	.071	141	026	018	.138		
	Sig. (2-tailed)	.574	.843		.917	.275	.625	.328	.858	.902	.341		
PR	Pearson Correlation	265	.099	.015	1	077	239	.040	.123	.209	.339*		
	Sig. (2-tailed)	.066	.492	.917		.593	.094	.781	.395	.145	.016		
cv	Pearson Correlation	.037	034	.157	077	1	052	120	.077	090	.229		
	Sig. (2-tailed)	.788	.816	.275	.593		.718	.405	.596	.534	.110		
	Pearson Correlation	.109	.353*	.071	239	052	1	111	286*	121	246		
	Sig. (2-tailed)	.470	.012	.625	.094	.718		.443	.044	.403	.086		
PBM	Pearson Correlation	081	.048	141	.040	120	121	1	.539**	.520**	.254		
	Sig. (2-tailed)	.552	.743	.328	.781	.405	.443		.000	.000	.075		
PR	Pearson Correlation	203	128	026	.123	.077	286*	.539**	1	.764**	.317*		
12	Sig. (2-tailed)	.154	.375	.858	.395	.596	.044	.000		.000	.025		
os	Pearson Correlation	215	023	018	.209	090	121	.520**	.764**	1	.274		
1-	Sig. (2-tailed)	.136	.874	.902	.145	.534	.403	.000	.000		.054		
сс	Pearson Correlation	027	222	.138	.339*	.229	246	.254	.317*	.274	1		
	Sig. (2-tailed)	.888	.121	.341	.016	.110	.086	.075	.025	.054			

** Correlation is significant at the 0.01 level

Interpretation:

Table 1 displays the variables that affected the digital banking facility for a sample of people in the Hyderabad area of the Indian state of Telangana. In the table we considered 10 factors (Perceived Ease of Use, Perceived Trust, Bank Credibility, Perceived Risk, Convenience, Friends / Relatives Advice, Personality of Bank Manager, Popularity of Banks, Quality of Service, Convenience) influencing the Digital banking facility used by the customers using 5





factors scaling like Strongly Agree, Agree, Neutral, disagree and strongly agree. In this table 26% Perceived Ease of Use and 34.5% Popularity of Banks.

S. No	Construct	Reliability Values of Initial stage	Dimension	Loadings	Reliability Values	CR	AVE	No. of dimensio ns	
		Initian Stage	PEU1	0.816				115	
	PEU		CC2	0.727					
1 1 1 20		0.816	CC3	0.732	0.816	0.903	0.654	4	
			CC4	0.795	1				
			EF1	0.892					
2	РТ	0.000	EF2	0.856	0.000	0.007	0.540	4	
2		0.892	EF3	0.857	0.892	0.827	0.549	4	
			EF4	0.836					
			PS1	0.857					
2	BC	0.00	PS2	0.859	0.00	0.004	0.60		
3		0.89	PS3	0.839	0.89	0.894	0.68	4	
			PS4	0.876					
			RL1	0.836					
	PR	0.000	RL2	0.863	0.000	0.002	0.676		
4		0.888	RL3	0.875	0.888	0.893	0.676	4	
			RL4	0.85					
			FDI1	0.89					
	CV		FDI2	0.848					
5		0.893	FDI3	0.877	0.893	0.897	0.637	4	
			FDI4	0.88					
			FDI5	0.852	1				
			PEU1	0.816			0.654	4	
6	FRA	0.912	CC2	0.727	0.812	0.903			
0		0.812	CC3	0.732	0.812				
			CC4	0.795					
			EF1	0.892					
7	DDM	0.813	EF2	0.856	0.812	0.827	0.540	4	
	FDNI		EF3	0.857	0.815	0.827	0.549	4	
			EF4	0.836					
			PS1	0.857					
8	DD	0.841	PS2	0.859	0.841	0.804	0.68	4	
0	I D	0.041	PS3	0.839	0.041	0.094	0.08	4	
			PS4	0.876					
			RL1	0.836					
0	QS	0.851	RL2	0.863	0.851	0.803	0.676	4	
		0.051	RL3	0.875	0.051	0.075	0.070	4	
			RL4	0.85					
		1	FDI1	0.89	1				
	CC		FDI2	0.848				5	
10		0.861	FDI3	0.877	0.861	0.897	0.637		
		1	FDI4	0.88	4				
			FDI5	0.852					
Total	number of Din	nensions				21		41	

Reliability Analysis





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Fit indices values of CFA path model

	χ2(df)	χ2/df	CFI	GFI	RMSEA
Model	431 735(6)	284	0.927	0.979	0.035
results	451.755(0)	201	0.927	0.575	0.055

Fit indices values of structural model

	χ2(df)	χ2/df	CFI	GFI	RMSEA
Model	9 310(6)	1 551	0.886	0.812	0.068
results	5.510(0)	1.551	0.000	0.012	0.000

CFA Overall Path Model







9. CONCLUSION

This study based on Ranga Reddy District of Telangana state. Research in the future may ideally employ a bigger sample size and include districts from all throughout Telangana, or even various divisional secretariat divisions. Ten variables were identified in this research as having an impact on consumer uptake. Adding extra variables to the conceptual model will also help to shed light on the study's findings. Despite the potential benefits of online banking, the somewhat positive link between perceived risk and perceived security might slow its expansion. Even now, many online banking customers worry that their money isn't safe because of security concerns.

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