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A Study on Factors Affecting Adoption of Self Service Technology's (SSTs) in Banking with Reference of Jhansi City

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Abstract

Self Service Technology can be defined as a two pillar based approach where the first pillar includes customer's adaptation services via hi-tech interaction through online banking (Internet Banking and Mobile Banking) and second pillar denotes the customer based conventional services like ATM and other consultancy services. From the customer point of view Self Service Technology means anywhere, anytime banking and from bank perspectives achieving greater profitability, control operations, transparency and also improving service quality for fulfilling their customer's expectation." With the introduction of these Self Service technologies people don't have to rush to bank for each and every transaction like depositing money and withdrawal of cash, fund transfer etc. The online scenario might increase innovative service quality issue such as efficiency, security and privacy of information which is not apparent in the Indian banking perspective despite of 560 million, internet users, still user not adopting self service technologies of banks. In present paper it has been discussed a various factors that influence adoption of Self Service Technologies by the consumers. And also analyze the demographic effect in adoption of SSTs. It is observed in the study that Age, income occupation, gender and education have significant influence towards adoption of the SSTs and also found major factors like Learning of regulatory competency of SSTs, Networking of SSTs, Economic prospects of SSTs and Advance technology of SSTs.

Keywords: Self Service Technologies, Hi-Tech Services, Online Banking, Mobile Banking.

Introduction

This common phrase '*Consumer is the king'* stipulates that in today's scenario the optimization of services should be pivotal around the consumers satisfaction and thus realizing the importance of this the banking system around the globe caters its services in accord to their customers' needs.

The core banking services are now instead of bringing the customer to the banks are reaching the customers at their places which stands as one of the biggest achievement in today's scenario. Thus this has assured the significance of service banking in banking domain through increasing awareness among customers towards usage of self service technologies of banks.

Self Service Technology refers to the application of a technology for a service in which the customers himself/ herself operate the system to avail a banking service. SSTs are automated delivery system which allow customers to settlement their transactions from remote location such as home and office with the use of computer, mobile and internet connectivity just one click on fingers. It is an effective source to reduce costs and to increase the number of customers in banks. They are increasingly changing the way the customers interact with the banks create service outcomes. Choosing, implementing and managing effective SST's is a challenging task for the banks. Success of SSTs depends upon customer acceptance of technology.

With the introduction of these Self Service technologies people don't have to rush to bank for each and every transaction like depositing money and withdrawal of cash, fund transfer etc.

These Self service banking technologies provides a platform to do transactions efficiently. To use these technologies a person doesn't require

any skilled and professional knowledge as they easy to use, easy to learn and easy to understand.

The SSTs have proved to be a revolution in the Indian banking system as it has outreaching effects in this digitalized world. Modern banking system offers a wide range of products and services to enhance its customer base and built a strong relationship with its clients. In this competitive world, today PSUs too are ensuring similar banking services, especially SSTs as their private counterparts, giving a neck to neck competition to them. These SSTs usually include services like ATM facility, Mobile Banking and Internet Banking which are seen to be common in today's digitalized world**.**

Objectives of the Study:

1. To analyze the factors that effecting towards the adoption of Self Service Technologies.
2. To analyze the Demographic Factor Effects in adoption of Self Service Technologies**.**

Research Methodology

Title of the study

A study on factors affecting to adoption of SSTs in Banking with reference to Jhansi City

Area of the Study

Jhansi City

Time Period of the study

May 2019

Research Design

Descriptive Design

Sampling Technique

Simple Random Sampling

Sample Size

Total 450 respondents were taken as sample size.

Sampling Unit

Bank Self Service Technology Users

Data Collection

The data for the title "A study on factors affecting to adoption of SSTs in Banking with reference to Jhansi City" have been collected from both the sources. As primary source a schedule method was adopted and as secondary information different bank websites, journals, news papers and thesis was studied.

Data Analysis tools

In the analysis of this study simple percentage, mean, Chi-square test, and Factor Analysis are performed.

Hypothesis of the study

As hypothesis here in this study, the Relationship between knowledge level on different SSTs of Banks and various demographic variables of the Respondents is tested**.**

Review of Literature

Manjhi Ajay (2017) analyzed the usage pattern of technology with reference to Self service technology by banks customer also found the factors responsible for adoption of SSTs. In this research he showed the location convenience is the important factor for the customer where as online banking mobile services is secondary parameter for the customer where as bank image and friendly staff with better services having the low choice for the customers they are more satisfied with physical surrounding and automated services this show that SSTs play an important role in their life basically ATM is prefer more long with the internet banking and mobile banking among these two internet banking having great importance among the customers.

Anbalagan .G (2017) showed the growth of Information technology and new innovation in banking sector. They discussed the technology from ATM to Internet Banking and its use for bank and for the customer. According to him banking system has seen many changes in terms of products and services, technology, banking system, trading facility etc. due to which better services are provided which is strengthening the customer base for banks and increasing productivity and accessibility in banks.

Sindwani and Goel (2015) tried to discuss on the linkage of banking through self service technology and customer loyalty. This usage of self service technology has helped out both the bank and the customer and has resulted in a beneficial situation for both. The banks are benefited with less walk-in and have also proved to be cost efficient for them. On the other side, the customers get convenience and all time banking. Narrowing down the lane to consumers' perspective towards preference of internet banking they found that the major factors that attracted the customers towards internet banking were convenience, reliability and security, personalization, responsiveness and customer loyalty. Testing the relationship of these factors on customers' loyalty it was found that personalization dimension showed a significant and positive relation with customer loyalty. But dimensions like reliability and security, convenience and responsiveness were found to be insignificant. This also states that SSTs have weak influence on customers' loyalty over a brand. And for increasing customers loyalty banks should focus on increasing the Self service technology base for making in more user friendly and enhancing the loyal customer base in India.

These studies and further more studies have outspoken of the importance and the changing trend of Self Service Technologies in India. They truly reveal that only development of self service technologies reaching and benefitting the urban population does not solve the problem but true development in modern paperless banking will be seen where customers do not face difficulties in usage and there is adoption of these new services. For this services should be in the reach of every common man and should be user friendly. From banking point, not only this but a core service cadre of SST should be seen where how the does these services enable the customer to perform their transactional and non transactional functions and enhance customer satisfaction. This can be well visited through the complete Self Service Technologies network here mainly focusing on ATM facility, Mobile Banking Facility and Internet facility which helps in bank customer to perform his banking transaction on his own.

Data Analysis

Table No.1

Demography of the Sample						
	Age of Respondents (in years)					
	less than 25	25-30	30-35	More than 35	Total	**Sample statistics**
F	150	85	97	118	450	Average age is 29.4 years
%	33.33	18.88	21.55	26.22	100	
	Gender of Respondents					
	Male	Female	Total			
F	230	220	450			
%	51.11	48.88	100			
Education of Respondents						
	Graduate	Post graduate	PhD	Others	Total	**Sample statistics**
F	157	239	31	23	450	The sample represents post graduate customers.
%	34.88	53.11	6.88	5.11	100	
Occupation of Respondents						
	Business	Employee	Student	Others	Total	**Sample statistics**
F	132	168	150	0	450	The sample majorly represents employee segment
%	29.33	37.33	33.33	0	100	
Income of Respondents(in Lakh)						
	Nil	Less Than 1	1 to 2	2 to 3	3 to 4	4 and above	**Sample statistics**
F	85	78	65	68	56	98	The average annual income of the sample is Rs. 134000/-
%	18.88	17.33	14.44	15.11	12.44	21.77	

The above table shows the demography of the sample. Here total 450 is the sample size. In this sample the average age is 29.4 years. This sample is composite of Male and Female in approx equal number. The sample has mostly post graduates' respondents. The most of the respondents comes under employment category. The average annual income of the sample is Rs 134000/- .

Relationship between knowledge level on different SSTs of Banks and Gender of the Respondents

Table No.2

Ho: The knowledge of internet Banking does not depend on Gender of the Respondents.
H1: The knowledge of internet Banking depends on Gender of the Respondents.

Crosstab				
Count				
		Gender of Respondent		
Knowledge of internet Banking		Male	Female	Total
	Advance	106	61	167
	Basic	68	88	156
	Nil	55	72	127
Total		229	221	450

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.462[a]	4	.001
Likelihood Ratio	18.837	4	.001

Linear-by-Linear Association	7.550	1	.006
N of Valid Cases	450		

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 28. The above table shows that the p value of chi square test is .01 which Is less than .05, so it's said that the knowledge of internet Banking the respondents depends upon their gender.

Table No.3

Ho: The knowledge of Mobile Banking does not depend on Gender of the Respondents.
H1: The knowledge of Mobile Banking depends on Gender of the Respondents.

Crosstab

Count				
		Gender of Respondent		
Knowledge of Mobile Banking		Male	Female	Total
	Advance	106	73	179
	Basic	63	80	143
	Nil	60	68	128
Total		229	221	450

Chi-square test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.346[a]	4	.035
Likelihood Ratio	10.727	4	.030
Linear-by-Linear Association	1.072	1	.300
N of Valid Cases	450		

a. 0 cells (0%) have expected count less than 5. The minimum expected count is .28.

The above table shows that the p value of chi square test is .035 which Is less than .05, so it's said that the knowledge on Mobile Banking of the respondents depends upon their gender

Table No.4

Relationship between knowledge level on different SSTs of Banks and Age of the Respondents
Ho: The knowledge of internet Banking does not depend on age of the Respondents.
H1: The knowledge of internet Banking depends on age of the Respondents.

Crosstab

Count						
		Age of Respondent				
Knowledge of Internet banking		less than 25	25-30	30-35	More than 35	Total
	Advance	48	36	47	36	167
	Basic	77	28	25	26	156
	Nil	25	21	25	56	127
Total		150	85	97	118	450

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	49.317[a]	6	.000
Likelihood Ratio	47.205	6	.000
Linear-by-Linear Association	7.865	1	.005
N of Valid Cases	450		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 23.99.

The above table shows that the p value of chi square test is .035 which Is less than .000, so it's said that the knowledge on internet Banking of the respondents depends upon their age.

Table No.5

Ho: The knowledge of mobile Banking does not depend on age of the Respondents.
H1: The knowledge of Mobile Banking depends on age of the Respondents.

Crosstab

Count		Age of Respondent				
Knowledge of Mobile Banking		less than 25	25-30	30-35	More than 35	Total
level of knowledge regarding Mobile banking	Advance	69	36	42	32	179
	Basic	61	26	28	28	143
	Nil	20	23	27	58	128
Total		150	85	97	118	450

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.991[a]	6	.000
Likelihood Ratio	43.223	6	.000
Linear-by-Linear Association	26.348	1	.000
N of Valid Cases	450		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.18.

The above table shows that the p value of chi square test is .035 which Is less than .000, so it's said that the knowledge on Mobile Banking of the respondents depends upon their age.

Table No.6

Ho: The knowledge of computer does not depend on age of the Respondents.
H1: The knowledge of computer depends on age of the Respondents.

Crosstab

Count		Age of Respondent				
Knowledge Computer		less than 25	25-30	30-35	More than 35	Total
level of knowledge regarding Computer	Advance	63	43	55	40	201
	Basic	74	31	29	55	219
	Nil	13	11	13	23	30
Total		150	85	97	118	450

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.019[a]	6	.000
Likelihood Ratio	44.378	6	.000
Linear-by-Linear Association	7.954	1	.005
N of Valid Cases	450		

a. 0 cells (.0%) have expected count less than 5.

The above table shows that the p value of chi square test is .035 which Is less than .000, so it's said that the knowledge on computer of the respondents depends upon their age.

Statistics of Factor Influencing Customer Perception towards SSTs

Table no.7

Case Processing Summary

		N	%
Cases	Valid	450	100.0
	Excluded[a]	0	.0
	Total	450	100.0

a. List wise deletion based on all variables in the procedure.

The above table shows that 100% respondent's have given response to the entire question related to variables

Reliability Statistics

Cronbach's Alpha	N of Items
.801	22

The above table represents the reliability of the variables under the study; here it's found the value of the Cron bach's Alpha is .801 which is sufficient to say that the variables under this study are highly reliable.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.932
Bartlett's Test of Sphericity	Approx. Chi-Square	3.428E3
	Df	231
	Sig.	.000

The above table reflects the value of KMO and Bartlett's Test coefficients is .932, which means a factor analysis can be performed on the under study variables.

Table no. 8

Communalities		
	Initial	Extraction
Save time compare to traditional banking	1.000	.630
Easily accessible at any time	1.000	.450
SSTs completing transaction fast and efficient	1.000	.221
SSTs are easily operated with less effort	1.000	.277
SSTs are easy to learn	1.000	.663
Easy option to understandable language	1.000	.358
Positive attitude towards ATM	1.000	.368
Positive perception towards mobile banking	1.000	.609
Physical and mental effort reduce	1.000	.644
Positive perception about internet banking	1.000	.441
beneficial idea for customers	1.000	.632
Intend to use SST in Future	1.000	.572
I trust traditional lesser intention to use SSTs	1.000	.475
Low transaction cost	1.000	.541
Bank of clear and sufficient information	1.000	.264
User friendly Online Banking Portal	1.000	.238
Easy resolution of customer grievances	1.000	.643
Secure & Privacy Measures of Bank	1.000	.691
Providing wide range of quality services	1.000	.680
Safe & Secure Customer Information	1.000	.630
Trusted Rules & Regulations of Banks against Frauds	1.000	.302
Trusted Safety Measures against Risks	1.000	.553
Extraction Method: Principal Component Analysis. (Source: author own sources)		

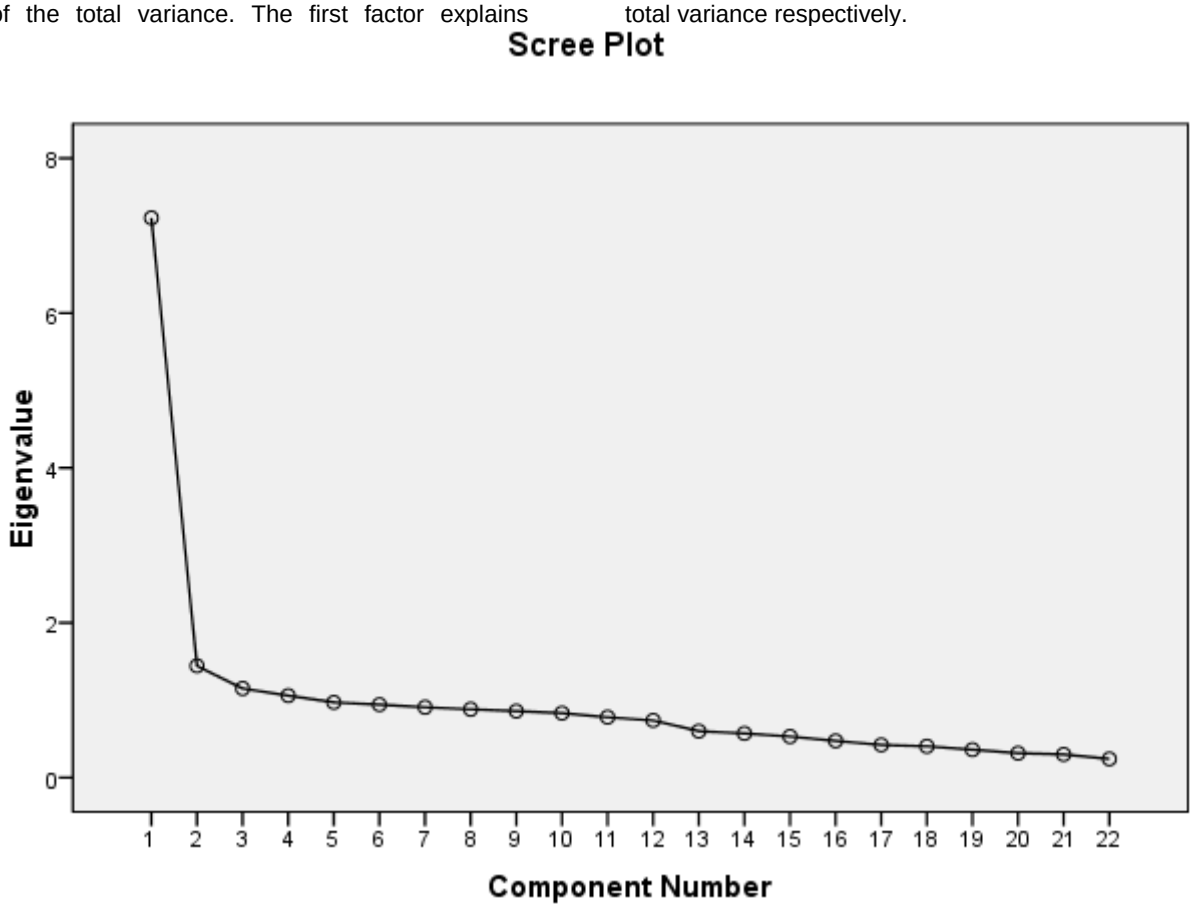
Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	7.230	32.863	32.863	7.230	32.863	32.863	4.751	21.596	21.596
2	1.443	6.557	39.420	1.443	6.557	39.420	2.697	12.259	33.855
3	1.150	5.227	44.648	1.150	5.227	44.648	1.872	8.511	42.366
4	1.059	4.813	49.460	1.059	4.813	49.460	1.561	7.094	49.460
5	.970	4.411	53.871						
6	.941	4.279	58.150						
7	.908	4.125	62.275						
8	.882	4.008	66.283						
9	.858	3.902	70.184						
10	.833	3.785	73.969						

11	.779	3.542	77.511						
12	.737	3.351	80.863						
13	.600	2.726	83.589						
14	.569	2.589	86.177						
15	.530	2.409	88.586						
16	.474	2.155	90.741						
17	.421	1.913	92.654						
18	.404	1.837	94.491						
19	.360	1.635	96.125						
20	.314	1.428	97.554						
21	.298	1.356	98.910						
22	.240	1.090	100.000						
Extraction Method: Principal Component Analysis.									

(Source: author own sources)

The above table explains the total variance by all the variables under the study. It's clear from the above table there will be four factors comprises 49.46 % of the total variance. The first factor explains 21.596% of the total variance. The second factor explains 12.259% of the total variance. While third and fourths factor explains 8.511 % & 7.094 % of the total variance respectively.



Graph No-

The above Scree graph plotted between Eigen value and Component Number represents four factors.

Rotated Component Matrix

Table No. 9

	Component			
	1	2	3	4
Save time compare to traditional banking		.691		
Easily accessible at any time		.660		
SSTs completing transaction fast and efficient		.632		
SSTs are easily operated with less effort				
SSTs are easy to learn	.524			
Easy option to understandable language	.586			
Positive attitude towards ATM				
Positive perception towards mobile banking	.516			
Physical and mental effort reduce	.516			
Positive perception about internet banking				.585
beneficial idea for customers			.586	
Intend to use SST in Future			.700	
I trust traditional lesser intention to use SSTs				
Low transaction cost			.512	
Bank of clear and sufficient information				.684
User friendly Online Banking Portal				.675
Easy resolution of customer grievances	.759			
Secure & Privacy Measures of Bank	.780			
Providing wide range of quality services	.729			
Safe & Secure Customer Information	.714			
Trusted Rules & Regulations of Banks against Frauds				
Trusted Safety Measures against Risks	.672			
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 8 iterations.				

(Source: Author own sources)

Out of 22 variables, 4 major factors were extracted and among these 4 factors only those variables are considered whose coefficient value was more than 0.5.

Findings of the Study

1. In the study total 500 respondents was taken sample size, whose average age is 29.4 years. This sample is composite of Male and Female merely in equal number. The sample has mostly post graduates' respondents. The average annual income of the Bank Customer is Rs 134000/.The most of the Banking Customers comes under employment category.
2. In this study number of factors have been identified which are influencing the adoption of SSTs in Banking. These factors are known as socio and economic factors. These factors includes variable like Age, Gender, Education, Occupation and Income etc.
3. In study it's observed that adoption of SSTs like ATM, Mobile Banking and Internet Banking etc is influenced by the Age, Gender, Education, Occupation and Income etc of the respondents.
4. It is found in the study that the knowledge level of different SSTs depends upon certain demographics factors. The knowledge of Mobile banking and Internet banking depends upon Age and Gender of respondent. And the knowledge of computer depends upon the Age of the respondents.
5. The usage of ATM., Mobile Banking and Internet Banking for the purpose of Balance enquiry, Receipt of mini-statement , Pay utility bills , Withdrawal of cash, Fund transfer, Deposit of cash , Pin change/generate , Fund transfer, Book tickets, Online shopping , Investment services and Mobile recharge etc also influenced by the

Age, Gender, Education, Occupation and Income etc of the respondents.

6. In this study 22 variables were observed which are highly reliable. These variables are grouped under perceived usefulness, perceived ease to use, attitude towards SSTs Usage, Behavioural intention to use SSTs, service efficiency of Bank and Trust towards SSTs. and I have identify four extracted which affect the use of SSTs the factors are considered as follow:

Learning of regulatory competency of SSTs

The learning of regulatory competency includes "Resolution of customer grievances, Secure & Privacy Measures of Bank, Wide range of quality services, Safe & Secure Customer Information, Trusted Safety Measures against Risks, easy to learn & understandable language".

Networking of SSTs

The networking of SSTs must ensure easy accessibility and time saving for customer. The networking factor includes "Save time compare to traditional banking, easily accessible at any time & SSTs completing transaction fast and efficient".

Economic prospects of SSTs

The factor of SSTs includes "Beneficial idea for customers, Intend to use SST in Future & Low transaction cost".

Advance technology of SST

The advance technology of SSTs includes "User friendly Online Banking Portal, Bank offer clear and sufficient information on Technology & Positive perception about internet banking.

Conclusion

The present study has identified No. of Variables, which comes under Demographic factor. These variables are Age, Gender, Education, Occupation and Income etc. The study found that these variables influences the knowledge of SSTs, also influences The usage of ATM., Mobile Banking and Internet Banking for the purpose of Balance enquiry, Receipt of mini-statement, Pay utility bills, Withdrawal of cash, Fund transfer, Deposit of cash, Pin change/generate, Fund transfer, Book tickets, Online shopping, Investment services and Mobile recharge etc also influenced by these variables. Apart from it, the TAM Components "perceived usefulness, perceived ease to use, attitude towards SSTs Usage, Behavioral intention to use SSTs, service efficiency of Bank and Trust towards SSTs." Are further analyzed and extracted 4 major factors namely "Learning of regulatory competency of SSTs, Networking of SSTs, Economic prospects of SSTs and Advance technology of SSTs" have been derived.

References

Anbalagan .G (2017), New Technological Changes in Indian Banking Sector, International Journal of Scientific Research and Management (IJSRM), Volume.5, Issue (09), pp.7015-7021.

Manjhi Ajay (2017), Analysis of customers preference towards banking self service technologies in reference to district Gorakhpur, state Uttar Pradesh, International Journal of Research in management, Economics and commerce, Vol.07, issue 09, September 2017, pp. 75-80.

Sindhwani Rajiv,Goel Manisha (2015), The impact of technology Based Self service banking service quality on customer loyalty, International Journal of Marketing and Business Communication Vol.4, Issue.3, pp 13-22.