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TECHNOLOGY READINESS OF CUSTOMERS - STATE BANK OF INDIA

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ABSTRACT

Technology plays a vital role in the delivery of services, with consumers exhibiting varying levels of readiness to play their role of interact with technology. The study attempts to find out the Technology Readiness of customers with special reference to State Bank of India, Gudiyattam, Vellore District. The study is based on primary data collected through structured questionnaire. The survey as well as personal interviews were collected from customers of SBI, Gudiyattam. The secondary data is collected from Journals, Books, Reports and Internet. The convenience sampling is used and the size of sample was restricted to 200 only. Hence, the type of research is exploratory and descriptive in nature. Statistical package for social sciences is used for analysis and interpretation of collected data. The statistical tools such as mean analysis, factor analysis, cluster analysis, chi-square analysis and regression analysis were used to analyze the data. Out of 200 respondents, 40 (20%) respondents were less willing for technology usage, 115 (57.5%) respondents were moderately willing for technology usage and 45 (22.5%) of the respondents were highly willing for technology usage. It is found that only six variables have significant effect on problems of technology usage.

Key Words: Technology Readiness, State Bank of India, Customers, Lack of Security.

I INTRODUCTION

In Indian Industry Banking Sector is steadily expanding. The liberalization of the economy has created a competitive culture that has taken the service industry and particularly the banking industry by storm. The banking sector has been the backbone of every emerging industry. It implements and brings about economic reforms. Any change in this sector through the technology adoption has a sweeping impact on a country's growth. Banking technology offers benefits both to banks and customers. The banks get significant cost savings in their operation through e-banking services. It has been proved that online banking channel is the cheapest delivery channel for banking products. The banks have reduced their branch networks and downsized the number of service staff which paved the way to self service channels. Customers too enjoy self-service, freedom from time and place constraint and reduced stress of queuing in banking hall. It indicates that electronic banking services delivery is the cheapest, most profitable and wealthiest delivery channel for banking products. Technology adoption at various levels lead to enhanced customer service. It has become the core part of the functionality. Industries realized that to survive in market, they have to pace with

innovation and creativity of products and services as well as the channels to deliver them. SBI was ranked 298th most reputed company in the world according to Forbes 2009 rankings has grown and ranked 19th Most Trust Brand in India as given in the BRAND TRUST REPORT 2014.

II OBJECTIVES OF THE STUDY

- To study the socio – demographic profile of the customer of SBI.
- To measure the technological readiness of the customers.
- To identify the problems pertaining to technology enabled banking services.

III SCOPE OF THE STUDY

This study covers the services offered by State Bank of India to the customers who opt readiness technology usage. The latest technological delivery channels, namely ATM (Debit card), Credit Card, on-line banking services, e-payments and electronic fund transfer, etc… have been taken up for the purpose of the study. This project is an analytical study based on convenience sampling to measure the technology readiness and ascertain the problems of technology usage of customers.

IV LIMITATIONS OF THE STUDY

- ✓ The data collected for the study is restricted only to State Bank of India, Gudiyattam.
- ✓ The result is based on primary and secondary data that has its own limitations as the sample size is restricted to only 200.
- ✓ The opinion of the respondents may be biased.
- ✓ The findings of the research cannot be generalized to the population as a whole.

V REVIEW OF LITERATURE

Parasuraman, (2000) Technology Readiness had defined "people's propensity to embrace and use new technologies for accomplishing goals in home life and at work". He found that technological readiness is a good predictor of technology related behavior.

Balasubrahmanyam Annam & Narasimha rao Yallapragada (2006) found that customers provided Technology-Based Self-Service in terms of service quality. The result implied that management should not neglect issues concerning enjoyment and curiosity. Although enjoyment was found to be an important factor, speed, ease of use and other efficiency-related factors are more crucial in the long run. It seems that Technology-Based Self-Service is most beneficial to loyal and committed customers.

Caison et al., (2008) suggested the extent to which consumers are prepared to use new technologies, rather than actual ability in this regard. (Meuter et al., 2005) argued that the technological readiness of customers is crucial in the trial and use of new technologies.

Berndt et al., (2010) found that knowing the technology readiness of customers could assist a business in developing its technology strategy as well as the way in which it manages the link between customers and technology.

In order to measure consumers' readiness to embrace new technologies, Parasuraman (2000) developed a multiple-item scale known as the Technology Readiness Index (TRI). A confirmatory factor analysis of the measurement scale was used to test and validate that a four-dimension model (36 statements) of technological readiness was reasonable. The four dimensions of TRI identified by Berndt et al. (2010) are: optimism, innovativeness, discomfort and insecurity. Of the four dimensions, optimism and innovativeness are drivers of technological readiness, while discomfort and insecurity are inhibitors of technological readiness.

Janelle Rose and Gerard Fogarty (2010) studied *Technology Readiness and Segmentation Profile of Mature Consumers*. They found that new technologies will continue to develop at an increasing rate and also it greatly assists service provides to understand the likely adoption of technologies when targeting the mature market customers.

Adele Berndt, Danie Petzer, and Stephen Saunders (2010) studied *the Readiness of South African Consumers for Technology-based Banking Products and Services*. They concluded that there is an underlying positive attitude among customers technology products, which will also impact on the future products launched into the market place. Technology-readiness also affects the speed at which these new products will be adopted in the market place, impacting the organization.

Bindiya Tater, Manish Tanwar, and Krishna Murari (2011) studied *Customer Adoption of Banking Technology in Private Banks of India*. They revealed that the customers of private sector banks agree that there exist relationship between factors such as age, gender, income, qualification and adoption of banking technology by customers. Young generation in the age of 30-45 years find the services comfortable, friendly and easy to use. Customers with post-graduate and graduate qualifications are found to be mostly adaptors of banking services.

Richard Shambre (2013) observed the fact that increased usage of technologies is strongly correlated with technology readiness. In other words, the more technological ready consumers are the more likely who will use the technology more frequently and regularly. In addition, high levels of technological readiness indicate that consumers are more likely to use a different mix of technologies. This therefore implies that bank marketers should not consider the various banking channels as separate products. Rather, these should ideally be sold as a package or bundle of products to customers. This brings to mind the idea of cross-selling products, as evidence suggests that these products are hardly used in isolation, for instance, ATMs are almost always used together with EFTPoS and Internet Banking with Mobile Banking.

Rajiv Sindwani and Dr. Manisha Goel (2013) studied the *Impact on 'Technology Based Self Service Banking*'. They found that focus on the aspects of technology based self service banking which may enhance customer satisfaction, results in ultimate customer loyalty and higher profitability. The same method for establishing relationship between service quality and customer satisfaction can also be used for other multimode technology based services like share and commodity trading by considering their broad self service technology attributes.

Vandana Tandon Khanna and Neha Gupta (2015) concluded that factors such as technology acceptability, safety, availability, user friendliness and accessibility highly depends on the demographic profile of the customers. Most of marketing decisions in terms of enhancing the effectiveness of delivery channels can be taken by considering those factors. Also customers are exposed to newer technology, which helps them to generate information by fewer clicks, should be channelized by Public Sector Banks by providing value added services.

Dr. V. Vimala (2015) revealed that information technology is vital in present day banking sector, it is imperative for banks to realize its impact on operational performance in order to justify capital investments. She concluded that Information Technology leads to increase customer satisfaction, improved operational efficiency, reduced transaction time, better competitive edge, reduce the running cost and ushered in swift response in service delivery.

Vijayendra S Gupta and Renuka Garg (2015) conducted a study on *Technology Readiness Index of E-Banking Users*. They found that the banks which introducing newer technology-enabled banking products or increasing the penetration of these products/services should keep various issues in mind like security, privacy and cost. The speed and success of the adoption of this technology by a broader market segment will have impact by the technology readiness of the broader market, specifically among the next adopter group of customers. This places responsibility on the banking industry to find ways to encourage the adoption of newer technology.

VI RESEARCH METHODOLOGY

The technology readiness of each respondent was assessed using 23 items selected from the original 36 items scale that were recommended in instructions provided by Colby and Parasuraman(2002). The pilot study was conducted by distributing the prepared questionnaire to 10 sample customers to measure its validity and reliability and test the collected data. Reliability analysis was conducted to test the internal consistency of the entire scale (Paul-Peter; 1979). Hair et al (2006) affirms that the generally agreed lower limit for cronbach's alpha co-efficient is 0.70. Cronbach's alpha co-efficient is the measure used to determine the internal reliability of the four dimensions of the TRI (Innovativeness, Optimism, Discomfort and Insecurity). The measure ranges from 0 to 1. The internal reliability of the TRI is 0.763. The primary data for this study was collected from customers of SBI bank Gudiyatham branch. The secondary data was collected from journals, books, reports and internet. The convenience sampling was used and the size of sample was 200. Hence, the type of research was exploratory and descriptive in nature. Statistical package for social sciences was used for analysis and interpretation of collected data. The statistical tools such as mean analysis, factor analysis, cluster analysis, chi-square analysis and regression analysis was used to analyze the data.

VII ANALYSIS AND FINDINGS

7.1 Socio-economic profile

Table 1 Socio-economic profile of the Respondents

Sl.No.	Profile	Category	Frequency	Percentage
1	Gender	Male	125	62.5
		Female	75	37.5
2	**Age**	Less than 20 years	28	14
		21 – 30 years	106	53
		31 – 40 years	40	20
		41 – 50 years	20	10
		Above 50 years	06	03
3	**Educational Qualification**	High School	37	18.5
		Intermediate	8	04
		Degree	87	43.5
		Master Degree	58	29
		Others	10	05
4	**Employment Status**	Government Employee	30	15
		Private Employee	83	41.5
		Business	17	8.5
		Student	48	24.0
		Housewife	17	8.5
		Others	5	2.5
5	**Income Level**	Nil Income	65	32.5
		Up to Rs.10000	40	20.0
		Rs.10001 – Rs. 20000	37	18.5
		Rs. 20001 – Rs. 30000	25	12.5
		Rs. 30001 – Rs. 40000	12	6.0
		Rs. 40001 – Rs. 50000	11	5.5
		Rs. 50001 & above	10	5.0
6	**Marital Status**	Married	90	45.0
		Unmarried	108	54.0
		Widowed	02	01.0
7	**Status of Usage**	Less than 1 Year	31	15.5
		1 – 5 Years	77	38.5
		5 – 10 Years	45	22.5
		10 – 15 Years	24	12.0
		Above 15 Years	23	11.5
8	**Mode of Banking**	Branch Banking	42	21.0
		ATM Banking	91	45.5
		Mobile Banking	16	8.0
		Internet Banking	25	12.5
		All the above	26	13.0
9	**Attributes**	Quality of service	66	33.0
		Technology used	43	21.5
		Trust	42	21.0
		Location	22	11.0

		Type of bank	27	13.5
10	**Factors Promotes to Use New Techniques in SBI Bank**	Reduced time of transactions	88	44.0
		Cost effectiveness	19	9.5
		Ease of use	64	32.0
		Technology savvy	29	15.5
11	**Computer Usage Level**	No knowledge of Computer	21	10.5
		Beginner	19	9.5
		Average Knowledge	67	33.5
		Advanced knowledge	66	33.0
		Expert	27	13.5

Source: Primary Data

It is inferred from the Table 1, that the sample consist of 62.5% male respondents, 53% of the respondents belongs to 21-30 years of age group, 43.5% of the respondents are degree holders and 41.5% of the respondents are private employee. The income level of the respondents reveals that 20% of the respondents are earning less than Rs.10000 per month, 54% of the respondents are unmarried, 35.5% of the respondents are using technology for 1-5 years and 45.5% of the respondents are using ATM banking services. 33% of the respondent's attributes are quality of service, 44% of the respondents said that the factors which prompts them to use new techniques in SBI bank are reduced time of transactions and 33.5% of respondents are having average level of computer knowledge.

7.2 Technological Readiness

Table 2 Descriptive Statistics

	Statement	Mean	Standard Deviation
1	I prefer the most advanced technology available.	3.93	1.175
2	Technology makes me more efficient in my job.	3.96	1.090
3	I find new technologies, to be mentally stimulating.	3.46	1.181
4	Technology gives me the freedom of mobility.	3.88	0.995
5	I feel confident that machines will do what you tell them to do.	3.71	1.087
6	I am the first in my friends circle to adopt the new technology.	3.31	1.350
7	I keep up with the latest technological developments in banking technologies.	3.79	1.099
8	Banking products and services that use the latest technology are much more convenient to use.	4.30	0.743
9	I like the idea of banking via computers/internet because I am not limited to regular business hours.	3.70	1.235
10	I find, I have fewer problems than other people in making technology work for me.	3.64	1.124
11	Technical support lines are not helpful because they don't explain things in terms that I understand.	2.46	1.459

12	I think that technology systems are not designed for use by ordinary people.	3.33	1.400
13	The manuals and instructions for this service are not written in plain language.	3.34	1.331
14	If I buy a high-tech product or service, I prefer to have the basic model rather than one with a lot of extra features.	2.71	1.586
15	It is embarrassing, when I have trouble with a high-tech gadget while people are watching.	3.31	1.180
16	Many new technologies have safety risks that are not discovered until after people have used them.	3.41	1.023
17	Technology always seems to fail at the worst possible time.	3.19	1.290
18	I do not think it is safe to do any kind of financial business in online.	2.80	1.542
19	I do not feel confident transacting with a place that can only be reached online.	2.92	1.452
20	Whenever something gets automated, you need to check carefully that the machine or computer is not making mistakes.	3.20	1.454
21	The human touch is very important when I do banking.	3.46	1.099
22	When I call a bank, I prefer to talk to a person rather than a machine.	3.41	1.318
23	If I am providing information to a machine or over the internet, I am never sure it really gets to the right place.	3.08	1.118

Source: Primary Data

Parasuraman (2000) developed a multi-item scale known as the Technology Readiness Index (TRI). Here 23 variables are identified to study the technology enabled banking services and customer behavior. These variables are stated in the form of statements to collect level of agreement and disagreement from the SBI customers. They are asked to give their opinion for the 23 statements on four dimensions of technology readiness namely Optimism, Innovativeness, Discomfort and Insecurity in the Likert five point scales with the alternate options such as Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree. The most significant statement in the above table comes out to be the nature of the contact that the customer wants with the SBI bank. The statement "Banking products and services that use the latest technology are much more convenient to use", had a mean score of 4.30 (on a five point scale) and a standard deviation of 0.743. This is the highest mean and the lowest standard deviation of all the statements. The statement "Technical support lines are not helpful because they don't explain things in terms that I understand", had a lowest mean score of 2.46.

7.3 Cluster Analysis

The customers can be classified into three categories based on the choice criteria. They are classified into three segments because the difference between the co-efficients is significant only on three cases on the hierarchical cluster. For the purpose of classification of customers K - means cluster is used.

Table 3 Final Cluster Center

	Cluster		
	1	2	3
Innovativeness	4.17	2.52	4.12
Optimism	4.09	2.74	3.91
Discomfort	2.55	3.91	3.84
Insecurity	2.45	4.05	4.15
Total	13.26	13.22	16.02
Average	3.315	3.305	4.005
Rank	**II**	**III**	**I**

Source: Primary Data

The final cluster center Table 3 manifests the mean values for the three clusters which reflect the attributes of each cluster. For instance, the mean values of the Innovativeness, Optimism, Discomfort and Insecurity for the third cluster are 4.12, 3.91, 3.84, and 4.15 respectively. This means that the third cluster people are highly ready for technology usage, first cluster people are moderately ready for technology usage, and the second cluster people are not much ready for technology usage. The average score of the third cluster is 4.005 with first rank. The first cluster is ranked second with average score of 3.315 and in the case of second cluster, average score is 3.305 with third rank. It is important to note that third cluster respondents have high score, first cluster respondents have moderate score and the second cluster people have low score for all the four factors. The following table reveals the cluster mean square, error mean square and F-table.

Table 4 ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Innovativeness	47.121	2	0.424	197	111.233	0.000
Optimism	29.959	2	0.335	197	89.450	0.000
Discomfort	43.400	2	0.442	197	98.089	0.000
Insecurity	66.484	2	0.399	197	166.447	0.000

Source: Primary Data

The Table 4 reveals a fact that there exists differences among the three clusters in the mean values and it is significantly different. The significant value for all the four criteria is 0.000. This means that these factors have significant contribution on dividing customers into three segments on the basis of Innovativeness, Optimism, Discomfort and Insecurity.

Table 5 Number of cases in each cluster

Cluster	Value	Percentage
1	115	57.5
2	40	20
3	45	22.5

Source: Primary Data

The Table 5 explains that out of 200, 40 (20%) respondents are less willing for technology usage, 115 (57.5%) respondents are moderately willing for technology usage and 45 (22.5%) of the respondents are highly willing for technology usage.

7.4 Regression Analysis

Multiple regression analysis is logical extension of two variable regression analysis. Instead of a single independent variable, 17 independent variables are used to estimate the values of a dependent variable (Problem of technology usage)

Table 6 Descriptive Statistics

	Mean	Std. Deviation	N
PROBLEMS OF TECHNOLOGY USAGE	1.91	0.851	200
Cards get blocked	2.50	0.688	200
Machine out of cash	2.11	0.770	200
Non-printing of statement	2.38	0.721	200
Long waiting time in queues	2.06	0.850	200
Reduction in balance without cash payment	2.38	0.735	200
Not providing information	2.36	0.717	200
Not being able to maintain security	2.29	0.742	200
Not giving fast response	2.26	0.766	200
Leaving the operation unfinished	2.30	0.778	200
Internet banking can be tampered with by others	2.22	0.785	200
Too many steps in processing transactions	2.17	0.785	200
Excess cash retained	2.46	0.723	200
Machines out of order	2.00	0.778	200
Lack of clear guidelines	2.20	0.797	200
Login / sign off are not easy	2.34	0.742	200
Lack of security in transactions	2.43	0.741	200
Lack of appropriate software	2.46	0.736	200

Source: Primary Data

The above table delineates the mean value and standard deviation for all the 17 independent variables. The mean value and standard deviation of the dependent variables are 1.91 and 0.851 respectively. The mean value of the independent variables ranges between 2.00 and 2.50.

Table 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.881[a]	0.775	0.754	0.422

Source: Primary Data

The model summary reveals that R value, R^2 value, adjusted R^2 value, and standard error of the estimate. R is the correlation, its value is 0.881[a], R^2 is the degree of determination, its value is 0.775. The degree of determination shows the extent to which independent variables influence on Problems of technology usage. Here, the problem is determined to an extent of 77.5% by the independent variables.

Table 8 ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	111.313	17	6.548	36.767	0.000[a]
Residual	32.235	181	0.178	-	-
Total	143.548	198	-	-	-

Source: Primary Data

From the above table 8 points out that the significant value is less than 0.01, which means dependent variable that is Problem of technology usage is significantly predicted by independent variables at 99% of confidence level.

Table 9 Co-efficient

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	5.440	0.186	-	29.270	0.000
Cards get blocked	-0.055	0.052	-0.045	-1.062	0.290
Machine out of cash	0.030	0.051	0.027	0.587	0.558
Non-printing of statement	-0.069	0.055	-0.059	-1.265	0.208
Long waiting time in queues	-0.001	0.046	-0.001	-0.031	0.975
Reduction in balance without cash payment	-0.074	0.050	-0.064	-1.482	0.140
Not providing information	0.049	0.055	0.041	0.897	0.371
Not being able to maintain security	-0.146	0.060	-0.127	-2.450	0.015
Not giving fast response	0.007	0.061	0.007	0.123	0.902
Leaving the operation unfinished	0.116	0.058	0.106	1.991	0.048
Internet banking can be tampered with by others	-0.042	0.061	-0.039	-0.697	0.487

Too many steps in processing transactions	-0.100	0.059	-0.092	-1.695	0.092
Excess cash retained	-0.046	0.048	-0.039	-0.955	0.341
Machines out of order	-0.097	0.053	-0.089	-1.831	0.069
Lack of clear guidelines	-0.177	0.054	-0.166	-3.259	0.001
Login / sign off are not easy	-0.172	0.066	-0.150	-2.630	0.009
Lack of security in transactions	-0.365	0.070	-0.318	-5.179	0.000
Lack of appropriate software	-0.353	0.062	-0.305	-5.707	0.000

Source: Primary Data

Regression co-efficient table 9 depicts as to which can be used to write the regression equation. The multiple regression equation describes the average relationship between these variables and this relationship is used to predict or control the dependent variable. Out of 17 independent variables, only six variables have significant effect on Problems of technology usage. Therefore, Problems of technology usage = 5.440 – 0.146 (Not being able to maintain security) + 0.116 (Leaving the operation unfinished) – 0.177 (Lack of clear guidelines) – 0.172 (Login/sign off are not easy) – 0.365 (Lack of security in transactions) – 0.353 (Lack of appropriate software). The remaining 11 variables do not have significant effect on problems of technology usage.

VIII SUGGESTIONS

SBI have concentrated more on quality in delivering the services and make the customers satisfied. But researcher from have the analysis of the various technology services offered the bank infer that the SBI should concentrate more on their services related to usage of banking products often used by customers and less on technical support lines which failed to explain the customer the details. In order to reduce the complaint against the technology services, there is a need for continuous upgrading the technological infrastructure with more concentration on usage of banking products and services.

IX CONCLUSION

Customers with master degree and degree holders are found to be easy adopters for the technology enabled banking services. The survey reflects that ATM banking remains the most popular banking service among customers after branch banking, internet banking, and mobile banking respectively as they provide reduced time in transactions, ease of use, technology savvy and cost effectiveness. The statements “Banking products and services that use the latest technology are much more convenient to use”, had a mean score of 4.30 and a standard deviation of 0.743. This is the highest mean and the lowest standard deviation of all the statements. The statement “Technical support lines are not helpful because they don’t explain things in terms that I understand”, had a lowest mean score of 2.46. Out of 200 respondents, 40 (20%) respondents are less willing for technology usage, 115 (57.5%) respondents are moderately willing for technology usage and 45 (22.5%) of the respondents are highly willing for technology usage.

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