A Study on Measuring the Security Awareness of the Innovative Banking Users in South Gujarat Region

Poonam P. Yadav

PhD Scholar, School of Management, RK University and Assistant Professor, Laxmi Institute of Management, Sarigam, Gujarat

Dr. Keyur M. Nayak

Principal, Laxmi Institute of Commerce, Sarigam

ABSTRACT *Purpose:* These days security is considered as the vital element for the users/customers and playing an essential role for the bankers and banking sector. As technology is moving in rapid pace, lots of changes are taking place in the industry. Due to technology the banking sector is enjoying a good time and at the same time many of the issues are coming into existence. Issues related to security are becoming more concern for the banking industry. Many of the research has being conducted on advanced security tools and human determinants but very less work has been researched to investigate about the customer awareness and behaviour towards innovative banking security in the South Gujarat Region. This study investigates the level of security awareness of innovative banking users based on various demographic profiles such as age, level of competency and education.

Design/ Methodology/ Approach: Convenient sampling is used to access the population. 750 respondents were accessed within five district of South Gujarat Region through structured questionnaire. Data were collected through primary as well as secondary data sources. Likert's five point scale has been used to categorize the Security Awareness levels of the users. Through statistical tool i.e. Chi-square, Null hypothesis is rejected at 95% and 99%. From the calculation, it is interpreted that the all the demographic profile of the respondent has a strong association with the basic level of Security awareness about the innovative banking. It has been found that almost all the demographic profile of the respondent impact the security awareness level of innovative banking users.

Findings:
This study shows that the user awareness of innovative banking security and also the paper found the association between the awareness and the demographic profile. It has being found that strong association exists between the various variables and Security awareness about the innovative banking in South Gujarat Region.

Practical Implication: The finding of the study has the implication for the banks existing in South Gujarat Region. This study will help the bankers to understand the respondents level of Security awareness in different area and the also they will be able to understand the association between various demographic variable and the level of Security awareness. Bankers will understand that how each of the variables are affecting the level of Security awareness about innovative banking

Originality / Value: This is the first study to test the association between Security awareness and the level of competency about the users.

1. INTRODUCTION:

Innovative banking is rapidly becoming familiar to the whole world because of its convenience and cheap in cost. Innovative banking system has replaced the traditional banking system where it was much tough to understand and perform the banking transactions. Due to technology banking industry is growing and made all the banking transactions easy for users too. Since the innovative banking has commenced, it has change the scenario of banking industry. Although many of the advantages has being fetch by the innovative banking system, some of the issues are becoming challenges for the banking industry. Among the various issues, security issues are affecting the quality of innovative banking service. First of all the innovative banking users are not aware about the security level of the banking industry and even if users are aware about the security they hesitate to use the service due to the fraud and crime done through the innovative banking.

2. LITERATURE REVIEW

Saroj Datta & Neha Dixit (2010) conducted the study which evaluated the factor influencing the adaptability of the e-banking. Primary as well as the secondary data source were used to collect the data. Rajasthan was the target area from which 200 user where selected as sample for the study. Adult customer was main respondents who were accessed through the structured questionnaire. Data analysis was performed through the factor analysis and regression as statistical tools. Interpretation results into specific findings such as e-banking get influenced by many factors. Factors comprises of awareness level, familiarity, safety and privacy and belief

Murat Hakan Altınta (2007) conducted a study to evaluate the security awareness of innovating banking services in turkey. Data were collected through structured questionnaire from 200 users. Collection of data has being through primary as well as secondary data sources. Data analysis and interpretation was the result of content analysis. From the study, it was found that internet banking is moving toward development in turkey and also phishing attack are increasing day by day. As the users are becoming more acquainted towards the internet banking, bankers has to enhance the service quality of the same and also has to minimize the security issues related to innovative banking.

Suganthi, Balachandher and Balachandran(2000) conducted a study to investigate the perception of the users towards security awareness of innovative banking. The survey was conducted on 300 number of users and non-users of innovative banking services through structured questionnaire and personal interview. T-test and factor analysis were used to analysis and interpreted the data collected through primary as well as secondary data source. Findings presents that there is no significant deviations exist between the mean ages of the two groups. The only difference exists in the average level of income. The only significant difference appears to be in the average level of monthly income. The finding presents the distinguishing point between the internet bank users group and non-internet user group.

Rahmath Safeena, Nisar Hundewale, and Abdullah Kam ani(2011) conducted a study to verify the level of security awareness among the mobile banking users. The survey was conducted on 53 numbers of mobile banking users in India through structured questionnaire. PCA and varimax were used to analyse the data collected through primary and secondary data sources. After the data was analysed and interpreted, it was found that Mobile banking provides flexibility for doing banking transaction very convenient and quick but users are still hesitant to adopt the due to several reasons. Security and privacy are the main causes for perceived risk. Users are not interested to test the system because they don't have proper knowledge of the system.

3. RESEARCH METHODOLOGY
Objective:
To evaluate the level of Security Awareness of innovative banking user in South Gujarat Region.

HYPOTHESES FORMULATION
Ho: Level of security awareness is not influenced by the qualification, Age and Level of Competency of the respondents.

Hμ: Level of security awareness is influenced by the qualification, Age and Level of Competency of the respondents.

DATA COLLECTION:
The Primary data source was used to collect the data. Structured questionnaire was used to access the respondents. Respondent had to respond to several questions about their levels of awareness about the innovative banking services. All questions were measured on a five-point Likert scale. To fulfil the objective of the study, structured set of questions were framed through which users of innovative banking were accessed in South Gujarat Region. Convenient sampling was used to access 750 number of sample. Questionnaires were distributed in five district of South Gujarat Region such as Valsad, Surat, Navsari, Dang and Bharuch. The data collected from the respondents has been tabulated in Ms Excel and analysis and interpretation has been made on the basis of the values arrived.

4. DATA ANALYSIS AND INTERPRETATION

Table No: 1 Education of Innovative banking users

Education	Frequency	Percentage%
Matriculate	85	11
Graduate	260	35
Post Graduate	280	37
Professional	125	17
Total	750	100

Among 750 numbers of respondents, maximum number of the respondents i.e. 280, 37% is post graduates and 260, 35% are graduates. Large numbers of respondents are highly educated. 125, 17% of the respondents among whole sample are matriculate and very less i.e. 85, 11% are professionals such as Doctors, Lawyers etc.

Table No: 2 Location of Innovative banking users

Location	Frequency	Percentage%
Valsad	150	20
Navsari	150	20
surat	150	20
Dang	150	20
Bharuch	150	20
Total	750	100

Respondents are equally from all the 5 district of south Gujarat Region. Among 750 of sample size, 150 numbers of respondents are assessed by the researcher from each districts of south Gujarat region such as Valsad, Navsari, Dang, Surat and Bharuch.

Table No : 3 Age Innovative banking users

Age	Frequency	Percentage%
18 -25	97	13
26 – 35	279	37
36 – 45	263	35
Above 45	111	15
Total	750	100

Among the sample, maximum number of respondents i.e. 279, 73% of respondent's age is between 26-35. 263, 35% number of user's age is between of 36-45 and very less number of respondents belong to the age groups such 18-25 and above 45 years i.e. 111,15% and 97,13% respectively.

Table No: 4 Level of Competency of Innovative banking users

Level of Competency	Frequency	Percentage%
Fully Competent	341	45
Partially Competent	298	40
Not Competent	111	15
Total	750	100

Maximum number respondents are fully competent i.e. 341, 45% and not competent respondents are 111,15%. 298, 40% are partially competent among all the respondents.

Table No: 5 Distribution of Sample respondents for security awareness such as encryption and decryption and their educational background

Educational Qualification	5 Highly Aware	4 Aware	3 Neutral	2 Not Aware	1 Highly Not Aware	Total
Matriculate	5	10	17	22	31	85
Expected	32.3	24.93333	9.86	9.0666667	8.84	85
Graduate	70	80	40	40	30	260
Expected	98.8	76.26667	30.16	27.733333	27.04	260
Post Graduate	120	110	20	15	15	280
Expected	106.4	82.13333	32.48	29.866667	29.12	280
Professional	90	20	10	3	2	125
Expected	47.5	36.66667	14.5	13.333333	13	125
	285	220	87	80	78	**750**
Cal Value	223.3	Tab value	32	Decision		
			21.026	95%		
			26.217	99%		

From the above table it has been identified that lower the education lower is their awareness and higher the education higher is the awareness. The researcher has the scientific evidence of the association between two categorical variables as the data has been tested at both 95 and 99 per cent level of significance. It has been concluded that the cal value is more than tab value, so we have enough reasons to believe that there is association between security awareness such as

Table No: 6 Distribution of Sample respondents for security awareness such as encryption and decryption in line with their Age.

Age	5 Highly Aware	4 Aware	3 Neutral	2 Not Aware	1 Highly Not Aware	Total
18 -25	29	20	27	13	8	97
Expected	29.3587	21.728	25.996	13.192	6.72533333	97
26 – 35	104	98	74	3	0	279
Expected	84.444	62.496	74.772	37.944	19.344	279
36 – 45	77	39	69	47	31	263
Expected	79.6013	58.912	70.484	35.768	18.2346667	263
Above 45	17	11	31	39	13	111
Expected	33.596	24.864	29.748	15.096	7.696	111
	227	168	201	102	52	750
Cal Value	153.5	Tab value		Decision		
			21.026	95%	Rejected	
			26.217	99%	Rejected	

From the above table it has been identified that respondent whose age is between 26- 35 years had high security awareness such as encryption and decryption. This is the result because this respondent uses this service on daily basis and after frequent usage they are aware about every information related to security awareness such as encryption and decryption. It has been identified that lower the age higher is their awareness and higher the education lower is the awareness. It has being observed that respondent who are above 45 are quite not aware about the login and logout facilities because they don't use it much into their daily transactions whereas the respondents whose age is less than 45 or 36 are highly aware of the this facilities because they use this into their day to day transaction. The researcher has the scientific evidence of the association between two categorical variables as the data has been tested at both 95 and 99 per

cent level of significance. It has been concluded that the cal value is more than tab value, so we have enough reasons to believe that there is association between the respondent's security awareness such as encryption and decryption in line with their Age.

Table No: 7 Distribution of Sample respondents for security awareness such as encryption and decryption in line with their Level of Competency.

Level of Competency	5 Highly Aware	4 Aware	3 Neutral	2 Not Aware	1 Highly Not Aware	Total
Fully Competent	119	117	105	0	0	341
Expected	123	108	103	5	2	341
Partially Competent	109	89	98	2	0	298
Expected	108	95	90	4	2	298
Not Competent	43	32	23	8	5	111
Expected	40	35	33	1	1	111
	271	238	226	10	5	**750**
Cal Value	68.8	Tab value		Decision		
			15.507	95%	Rejected	
			20.09	99%	Rejected	

From the above table it has been identified that higher the competency higher is their awareness and lower the competency lower is the awareness. The researcher has the scientific evidence of the association between two categorical variables as the data has been tested at both 95 and 99 per cent level of significance. It has been concluded that the cal value is less than tab value, so we have enough reasons to believe that there is association between the respondent's security awareness such as encryption and decryption and their level of Competency.

Table No: 8 Distribution of Sample respondents for security awareness such as use of two factor authentication on all financial transactions and their educational background

Educational Qualification	5 Highly Aware	4 Aware	3 Neutral	2 Not Aware Aware	1 Highly Not Aware	Total
Expected	35	24	15	6	6	85
Graduate	101	73	69	9	8	260
Expected	108	73	44	17	17	260
Post Graduate	129	98	31	16	6	280
Expected	116	79	48	19	18	280
Professional	76	35	14	0	0	125
Expected	52	35	21	8	8	125
	312	211	128	50	49	750
Cal Value	335.0	Tab value	32	Decision		
			21.026	95%		
			26.217	99%		

From the above table it has been identified that lower the education lower is their awareness and higher the education higher is the awareness. The researcher has the scientific evidence of the association between two categorical variables as the data has been tested at both 95 and 99 per cent level of significance. It has been concluded that the cal value is more than tab value, so we have enough reasons to believe that there is association between security awareness such as use of two factor authentications on all financial transactions and their educational background

Table No: 9 Distribution of Sample respondents for security awareness such as use of two factor authentication on all financial transactions in line with their Age.

Age	5	4	3	2	1	Total
	Highly Aware	Aware	Neutral	Not Aware Aware	Highly Not Aware	
18 -25	38	31	23	3	2	97
Expected	31	21	25	12	8	97
26 – 35	112	82	81	4	0	279
Expected	88	60	73	36	22	279
36 – 45	77	39	69	47	31	263
Expected	83	56	69	34	21	263
Above 45	10	9	24	42	26	111
Expected	35	24	29	14	9	111
	237	161	197	96	59	750
Cal Value	216.6	Tab value		Decision		
			21.026	95%	Rejected	
			26.217	99%	Rejected	

From the above table it has been identified that respondent whose age is between 26- 35 years had high security awareness such as use of two factor authentication on all financial transactions. This is the result because this respondent uses this service on daily basis and after frequent usage they are aware about every information related to security awareness such as use of two factor authentication on all financial transactions. It has been identified that lower the age higher is their awareness and higher the education lower is the awareness. It has being observed that respondent who are above 45 are quite not aware about the use of two factor authentication on all financial transactions because they don't use it much into their daily transactions whereas the respondents whose age is less than 45 or 36 are highly aware of the this facilities because they use this into their day to day transaction. The researcher has the scientific evidence of the association between two categorical variables as the data has been tested at both 95 and 99 per cent level of significance. It has been concluded that the cal value is more than tab value, so we have enough reasons to believe that there is association between the respondent's security awareness such as use of two factor authentication on all financial transactions in line with their Age.

Table No: 10 Distribution of Sample respondents for security awareness such as use of two factor authentication on all financial transactions in line with their Level of Competency.

Level of Competency	5	4	3	2	1	Total
	Highly Aware	Aware	Neutral	Not Aware Aware	Highly Not Aware	
Fully Competent	139	104	98	0	0	341
Expected	142	103	90	5	1	341
Partially Competent	122	95	79	2	0	298
Expected	124	90	79	4	1	298
Not Competent	51	28	21	9	2	111
Expected	46	34	29	2	0	111
	312	227	198	11	2	750
Cal Value	56.03	Tab value		Decision		
			15.507	95%	Rejected	
			20.09	99%	Rejected	

From the above table it has been identified that higher the competency higher is their awareness and lower the competency lower is the awareness. The researcher has the scientific evidence of the association between two categorical variables as the data has been tested at both 95 and 99 per cent level of significance. It has been concluded that the cal value is less than tab value, so we have enough reasons to believe that there is association between the respondent's security awareness such use of two factor authentication on all financial transactions and their level of Competency.

5. FINDINGS

Findings presents that respondents who are young are highly aware about the security of innovative banking as compared to the respondents who belong to adult or old age. Young respondents adopt the technology very fast and are ready to take risk. Innovative banking has various aspects of advanced technology which is being accepted by the young generation very fast without any hesitation of security or risk issues. Null hypothesis is rejected which indicate that age influence the level of security awareness of innovative banking. Educated respondents are highly aware about the security of innovative banking because they have sound knowledge and use the services on the daily basis. Less educated or illiterate respondents doesn't rely more on the services such as internet banking or mobile banking, usually they prefer ATM/cheque etc because of less risk and security issues in the transaction. Null hypothesis is rejected which indicate that education influence the level of security awareness of innovative banking. Highly competent respondents are highly aware about the security of innovative banking and vice versa because highly competent respondent are quite comfortable with the transaction done through advance technology rather than the traditional banking system. Null hypothesis is rejected which indicate that level of competency influence the level of security awareness of innovative banking.

6. CONCLUSIONS

It is found from this study that younger generation were have high level of Security awareness about the innovative banking services as compared to older generation because of new innovation in information technology and their adoption level is high in innovative banking . Middle aged respondent are highly aware about basic innovative banking as compared to other age group respondents. Risk is one of the factor users were consider while opening an internet bank account. They didn't feel secure in the internet banking. The respondents preferred ATM, Online banking, Mobile banking, Sms banking for their financial transactions. On the basis of data analysis and interpretations, the following suggestions can be made, to increase awareness among people, Banks should advertise and conduct special awareness programs to make innovative Banking services more popular among customers. The number ATM centres should be increased nearby customer place like cinema theatres, markets etc. Most of the respondents are aware about innovative banking services but they hesitate to use because they don't know how to use it in correct manner. Proper training or other solution to solve this problem should be introduced by the banking industry and it should try to improve their service level to face the stiff competition. Innovative banking is very useful to the users, banks and other related organization like Public sectors. Innovative banking can make the transaction easy and fast so that all the related parties can work smoothly without any hindrance.

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