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A Study on Consumer Social Awareness with Regard to Security and Privacy in Automated Teller Machine/ Cards (Debit/ Credit) Services in Udaipur City

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Abstract

The Indian Banking sector is undergoing significant changes and growth. This study assesses the social awareness among the consumers regarding security and privacy while using ATM/Cards (Debit/Credit) in Udaipur City. Primary data was collected from 550 consumers who are using ATM/Cards (Debit/Credit) service by using convenient sampling method and by means of structured questionnaire. The data were analyzed using Kruskal Wallis and chi square test. The study revealed that demographic factor i.e. gender, age, education and occupation play an important role for measuring the level of social awareness among the consumers with regard to security and privacy in ATM/Cards (Debit/Credit). It was also observed that except gender and age groups other demographic factors such as education and occupation directly affect the level of social awareness among the consumers of Udaipur city.

Key Words: Automated Teller Machine, banking, awareness, security and privacy

Introduction

In today's world innovation plays a fundamental portion in our lives. Individual around the world are attempting to move forward upon what has been as of now designed or make something unused and progressive all together. Earlier to 1960's individual had to induce to them to their particular banks and fulfill their bank exchanges by means of confront to confront interaction with the tellers. With the presentation of Automated Teller Machine, a computer-based banking framework whose computer program permitted different bank exchanges to be completed rapidly, effortlessly and at any time of the day, but at the same time

it brought different security concerns. Automated teller machines were made to assist banks diminish the line of individuals holding up for bank workers to perform bank exchanges. Inspite of the fact that most of today's mechanical developments are made with the positive objective and cause, there are a few developments made with a negative cause like cyber hacking programs. Whereas most hacking appears to be done from behind a computer and absent from ATM physically, programmers are finding other ways to assemble budgetary data from the ATM location itself. Hackers are utilizing gadgets known as skimmers, these are gadgets that connect to the card per user on an ATM and record the data transmitted from the card to the ATM framework. This permit hackers to accumulate data from the clients such as PIN, account data, card number and security code. Inspite of the fact that e-banking offerings are advertised with the help of all the banks, it may be need to discover out approximately whether or not all the banking clients are mindful of the security and protection issues of e-banking offerings. A client is wise enough to understand security and privacy related issues while using e-banking products such as ATM/Cards (Debit/Credit). Institution plays an important role in designing safety features of any e-banking products but it all depends of uses, how to use these products and how much are they literate about the safety features of those products. Hence, the importance of this study is to analyze "Consumer social awareness with regard to the security and privacy in Automated teller machine in Udaipur City".

Literature Review

(Saha & Rahman, 2018) found that ATM card fraud has become a serious problem throughout the world also Bangladesh. Banks and clients loose huge amount annually due to ATM card fraud. This study also gives some security suggestions reduce ATM card frauds for financial organizations, So the banking sector of Bangladesh should use this new technology to minimize ATM card fraud and to keep safe the ATM card fraud and to keep safe the ATM services in the e-banking portfolio.

(Adesuyi, Solomon, & Robert, 2013) found that existing security foundation on ATMs isn't satisfactory sufficient to combat the advancing nature of ATM extortion, subsequently this require improved innovation on security. Moreover, the security measures embraced by a few banks are out of date, hence making the measures less noteworthy and permitting extortion at ATM. Measures and Rules on Electronic banking need satisfactory follow-up as these Benchmarks and Rules are excessive breached by some financial institutions. The current security execution does not proffer the satisfactory security fundamental to secure electronic exchanges, customers' data and reserves.

(Aghaeirad, Fathi-Vajargah, & Afzali, 2012) proposed a strategy, it was exceptionally simple for bank clients. They don't have to be keep in mind passwords for their various accounts or isolated passwords for Web managing an account. They suggested that clients may get one time secret word tokens so that they get their account at distinctive banks from the nearest port.

(Garko, Abdulkarim, Gambo, H.B/Kudu, & Salisu, 2015) explored the developing trend within the different sort of extortion related with the ATM cards utilization as a result of revelation of the four-digit pin by a few ATM card clients in a few four randomly chosen huge cities in Nigeria. The paper then proposed a system to minimize the extortion by changing the mode of operation of the current ATM frameworks to improve client security in this manner blocking a few chances of false activities

Objective of the Study

1.To analyze the distinction in consumer social awareness regarding security and privacy while using ATM/Cards (Debit/Credit) throughout demographic factors (gender, age , education and occupation)

2. To measure the level of social awareness among the consumers regarding use of ATM/Cards (Debit and Credit) with respect to its security and privacy features.

Research Methodology

Research purpose:

Assessing the social awareness among the consumers regarding security and privacy in Automated Teller Machine/Cards (Debit/Credit) in Udaipur City

Tools and Techniques

The key literature on security and privacy aspect in ATM/Cards (Debit/Credit) is reviewed on. Primary data was collected using questionnaire survey. Descriptive and inferential analysis was done and statistical tools such Kruskal Wallis and Chi-Square test employed SPSS version 23 to analyze the data

Research Questions

- Is there any difference among the demographic factors i.e. age, gender, education, and occupation with regard to their social awareness towards security and privacy while using Automated Teller Machine/Cards (Debit/Credit)?
- What is the level of social awareness among consumers categorized with the high, moderate and low related to their safety and privacy feature while using Automated Teller Machine/Cards (Debit/Credit)?

Hypothesis Development

H_{01} There is no significant difference among the consumers with social awareness towards security and privacy for ATM/Cards (Debit/Credit).

H_{02} There is no significant association among consumers with the level of social awareness with regards to security and privacy for ATM/Cards (Debit/Credit).

Population

For this research estimated population is 1500 consumers who are using service of ATM/Card/Debit/Credit) in Udaipur City.

Sampling technique

Convenience sampling techniques has been adopted to collect the response. Out of 1500 population, sample size of 550 were taken into for the collection of data from the respondents.

Table (I): Respondent Demographics - Summary

		Frequency	Percentage
GENDER	Male	366	66.5
	Female	184	33.5
Age	Below 30	141	25.6
	31-45	169	30.7
	46-62	134	24.4
	Above 63	106	19.3
Education	Primary	80	14.5
	Secondary	122	22.2
	Graduate	137	24.9
	Post Graduate	211	38.4
Occupation	Professional	160	29.1
	Service	160	29.1
	Business	160	29.1
	Labor	70	12.7
Sub Occupation			
Business		160	29.1
Labor		70	12.7
Professional	CA / CS	40	7.3
	Engineer	40	7.3
	Lawyer	40	7.3
	Doctor	40	7.3
Service	Govt. Ser	80	14.5
	Pvt. Ser	80	14.5

Table (II): Scale Item Dimensions

DIMENSIONS		SCALE ITEM	VARIABLE NAME
Social Awareness	**ATM/Cards (Debit/Credit)**	Only one person is allowed to enter ATM cabin for transaction	V 1
		There is adequate privacy while using ATM	V 2
		I am aware about the process if I forget my login password/login ID	V 3
		My card information may be shared by the bank with 3rd party	V 4
		Someone can use my name and information and apply for a credit card	V 5
		Someone can obtain a card through fraud application by obtaining all the information of a person who would be eligible to get a card	V 6
		Password should not be Date of Birth, Mobile no.	V 7

Limitation of the study

- Limited Geographical scope.
- Sometimes respondents would not show proper interest while answering the questions

Reliability

The calculated value of Cronbach's Alpha is .800, which is more than the required standard reliability of .60 that means the instrument of this research is quite reliable.

Data analysis and Interpretation

Analysis of Kruskal Wallis test on demographic factors for level of Social awareness towards security and privacy for Electronic banking services

(a.) Gender

Based on Gender following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{01.1}$	**There is no significant difference among the consumer gender groups with social awareness towards security and privacy while using ATM/Cards (Debit/Credit) Services.**
$H_{a1.1}$	There is a significant difference among the consumer gender groups with social awareness towards security and privacy while using ATM/Cards (Debit/Credit) Services.

There is a significant difference among the consumer gender groups related to test variable that "**only one person is allowed to enter ATM cabin for the transaction"** for variable gender (Chi square= 9.065, df=1, p = 0.003), with a mean rank of test variable of 261.89 for male and 302.56 for female. There is a significant difference among the consumer gender groups to test variable that "**there is adequate privacy while using ATM"** for variable gender (Chi square= 12.437, df=1, p = 0.000), with a mean rank of test variable of 259.38 for male and 307.56for female. There is a significant difference among the consumer gender groups to test variable that "**I am aware of the process if I forget my login**" for variable gender (Chi square= 16.442, df=1, p = 0.000), with a mean rank of test variable of 256.69 for male and 312.91 for female. There is a significant difference among the consumer gender groups to test variable that "**my card information may be shared by the bank with 3rd party**" for variable gender (Chi square= 11.176, df=1, p = 0.001), with a mean rank of test variable of 291.08 for male and 244.51 for female. There is a significant difference among the consumer gender groups to test variable that "**Someone can use my name and information and apply for a credit card**" for variable gender (Chi square= 14.010, df=1, p = 0.000), with a mean rank of test variable of 292.97for male and 240.76 for female. There is a significant difference among the consumer gender groups related to test variable that "**Someone can obtain a card through fraud application by obtaining all the information of a person who would be eligible to get a card**" for variable gender (Chi square= 11.303, df=1, p = 0.001), with a mean rank of test variable of 291.27 for male and 244.13 for female. There is no significant difference among the consumer gender groups to test variable that "**password should not be the date of birth, mobile no."** for variable gender (Chi square= 1.616, df=3, p = 0.204), with a mean rank of test variable of 270.12 for male and 286.21 for female.

Conclusion

The null hypothesis is rejected, there is a significant difference among the consumer gender groups with social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services. Finally, it concludes that males and females have different thinking about social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services except for one test variable i.e. password should not be the date of birth, mobile no**.**

(b.) Age

Based on age following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

H0$_{1.2}$	**There is no significant difference among consumer age groups with social awareness towards security and privacy while using ATM/Cards(debit/credit) services.**
Ha$_{1.2}$	There is a significant difference among consumer age groups with social awareness towards security and privacy while using **A**TM/Cards(debit/credit) services.

There is a significant difference among the consumer age groups related to test variable that "**only one person is allowed to enter ATM cabin for transaction**" for variable age group (Chi square= 10.195, df=3, p = 0.017), with a mean rank of test variable of 263.48 for age group below 30, 258.63 for Age group 31-45, 278.92 for age group 46-62, and 314.07 for age group above 63.There is not a significant difference among the consumer age groups related to test variable that "**there is adequate privacy while using ATM**" for variable age group (Chi square= 7.341, df=3, p = 0.062), with a mean rank of test variable of 255.09 for age group below30, 271.76 for Age group 31-45, 276.62 for age group 46-62, and 307.20 for age group above63. There is not a significant difference among the consumer age groups related to test variable that "**I am aware about the process if I forget my login**" for variable age group (Chi square= 2.691, df=3, p = 0.442), with a mean rank of test variable of 261.42 for age group below 30, 279.99 for age group 31-45, 271.40 for age group 46-62, and 292.25 for age group above 63. There is not a significant difference among the consumer age groups related to test variable that "**my card information may be shared by the bank with 3rd party**" for variable age group (Chi square= 1.673, df=3, p = 0.643), with a mean rank of test variable of 283.99 for age group below 30, 279.53 for Age group 31-45, 274.00 for age group 46-62, and 259.67 for age group above 63.There is not a significant difference among the consumer age groups related to test variable that "**Someone can use my name and information and apply for a credit card**" for variable age group (Chi square= 2.015, df=3, p = 0.569), with a mean rank of test variable of 284.72 for age group below 30, 282.42 for Age group 31-45, 268.06 for age group 46-62, and 261.59 for age group above 63.There is not a significant difference among the consumer age groups related to test variable that "**Someone can obtain a card through fraud application by obtaining all the information of a person who would be eligible to get a card**" for variable age group (Chi square= 3.325, df=3, p = 0.344), with a mean rank of test variable of 295.48 for age group below 30, 268.61 for Age group 31-45, 272.41 for age group 46-62, and 263.82 for age group above 63. There is not a significant difference among the consumer age groups related to test variable that "**password should not be date of birth, mobile no**". for variable age group (Chi square= 1.817, df=3, p = 0.611), with a mean rank of test variable of 265.70 for age group below 30, 271.15 for Age group 31-45, 283.49 for age group 46-62, and 285.38 for age group above 63.

Conclusion

The null hypothesis is accepted, there is no significant difference among consumer age groups with social awareness towards security and privacy while using ATM/Cards(debit/credit) services. It means consumers of all age groups have similar thinking about above important factors of social awareness towards security and privacy while using ATM/cards(debit/credit) services. Finally, it concludes that a respondent who has young age have a similar influence

about social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services whatever a respondent has higher group of age except in one test variable i.e. only one person is allowed to enter ATM cabin.

(c.) Education

Based on education following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{01.3}$	**There is no significant difference among consumers at different education level with social awareness towards security and privacy while using ATM/Cards(debit/credit) services.**
$H_{a1.3}$	There is a significant difference among consumers at different education level with social awareness towards security and privacy while using **A**TM/Cards(debit/credit) services.

There is a significant difference among consumers at different education level related to test variable that "**only one person is allowed to enter ATM cabin for transaction"** for variable education level (Chi square= 71.833, df=3, p = 0.000), with a mean rank of test variable of 166.01 for primary level of education, 240.43 for secondary level of education, 318.59 graduate level of education, and 309.31for post graduate level of education. There is a significant difference among consumers at different education level related to test variable that "**There is adequate privacy while using ATM"** for variable education level (Chi square= 63.352, df=3, p = 0.000), with a mean rank of test variable of 171.53 for primary level of education, 242.20 for secondary level of education, 316.86 graduate level of education, and 307.32 for post graduate level of education.There is a significant difference among consumers at different education level related to test variable that "**I am aware about the process if I forget my login password/login ID"** for variable education level (Chi square= 72.482, df=3, p = 0.000), with a mean rank of test variable of 187.49 for primary level of education, 214.55 for secondary level of education, 305.35 graduate level of education, and 324.73 for post graduate level of education. There is a significant difference among consumers at different education level related to test variable that "**My card information may be shared by the bank with 3rd party"** for variable education level (Chi square= 31.165, df=3, p = 0.000), with a mean rank of test variable of 332.56 for primary level of education, 314.66 for secondary level of education, 234.98 graduate level of education, and 257.53 for post graduate level of education. There is a significant difference among consumers at different education level related to test variable that "**Someone can use my name and information and apply for a credit card"** for variable education level (Chi square= 57.484 df=3, p = 0.000), with a mean rank of test variable of 365.72 for primary level of education, 319.11 for secondary level of education, 251.87 graduate level of education, and 231.42 for post graduate level of education. There is a significant difference among consumers at different education level related to test variable that "**Someone can obtain a card through fraud application by obtaining all the information of a person who would be eligible to get a card"** for variable education level (Chi square= 48.456, df=3, p = 0.000), with a mean rank of test variable of 359.51for primary level of education, 316.62 for secondary level of education, 241.80 graduate level of education, and 241.76 for post graduate level of education. There is a significant difference among consumers at different education level related to test variable that "**Password should not be Date of Birth, Mobile no"** for variable education level (Chi square= 12.279, df=3, p = 0.000), with a mean rank of test variable of 236.34 for primary level of education,

258.70 for secondary level of education, 284.96 graduate level of education, and 293.92 for post graduate level of education.

Conclusion

The null hypothesis is rejected, there is a significant difference among consumers at different education level with social awareness towards security and privacy while using ATM/Cards(debit/credit) services. It means consumers at different education level have a difference in thinking about the above important factors of social awareness towards security and privacy while using ATM/cards(debit/credit). Finally, it concludes that a respondent who has a primary level of education have a different influence about social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services whatever a respondent has a post-graduate level of education.

(d.) Occupation

Based on occupation following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{01.4}$	**There is no significant difference among consumers from different occupation with social awareness towards security and privacy while using ATM/Cards (Debit/credit) services.**
$H_{a1.4}$	There is a significant difference among consumers from different occupation with social awareness towards security and privacy while using ATM/Cards (Debit/credit) services.

There is a significant difference among consumers from different occupation related to test variable that "**Only one person is allowed to enter ATM cabin for transaction"** for variable occupation (Chi square= 215.354, df=3, p = 0.000), with a mean rank of test variable of 309.90for Professional class, 355.80 for service class, 259.29 for business class, and 50.38 for Labor class. There is a significant difference among consumers from different occupation related to test variable that "**There is adequate privacy while using ATM"** for variable occupation (Chi square=170.722, df=3, p = 0.000), with a mean rank of test variable of 324.98for Professional class, 319.70 for service class, 275.32for business class, and 61.77 for Labor class. There is a significant difference among consumers from different occupation related to test variable that "**I am aware about the process if I forget my login password/login ID"** for variable occupation (Chi square= 156.478, df=3, p = 0.000), with a mean rank of test variable of 344.75for Professional class, 326.08 for service class, 233.72 for business class, and 97.11 for Labor class. There is a significant difference among consumers from different occupation related to test variable that "**My card information may be shared by the bank with 3rd party"** for variable occupation (Chi square= 97.022, df=3, p = 0.000), with a mean rank of test variable of 232.84for Professional class, 235.32 for service class, 289.67 for business class, and 432.45 for Labor class. There is a significant difference among consumers from different occupation related to test variable that "**Someone can use my name and information and apply for a credit card"** for variable occupation (Chi square=104.054, df=3, p = 0.000), with a mean rank of test variable of 219.34for Professional class, 252.00for service class, 283.53for business class, and 439.20 for Labor class. There is a significant difference among consumers from different occupation related to test variable that "**Someone can obtain a card through fraud application by obtaining all the information of a person who would be eligible to get a card" for test variable** (Chi square=100.999 df=3, p = 0.000), with a mean rank of test variable of 219.03 for Professional class, 233.68 for service class, 311.04 for business class, and 418.91 for Labor class. There is a

significant difference among consumers with different occupation related to test variable that "**Password should not be Date of Birth, Mobile no"** for variable education level (Chi square= 50.460, df=3, p = 0.000), with a mean rank of test variable of 274.32 for Professional class, 328.38 for service class, 261.13 for business class, and 190.19 for Labor class.

Conclusion

The null hypothesis is rejected, there is a significant difference among consumers from different occupation with social awareness towards security and privacy while using ATM/Cards (Debit/credit) services. It means consumers from different occupation have a difference in thinking about the above important factors of social awareness towards security and privacy while using ATM/Cards(debit/credit) services. Finally, it concludes that there is a different influence about social awareness towards security and privacy while using ATM/Cards(debit/credit) services among the consumers from different occupations such as Professional class, Service class, Business class, and Labor class.

(e.) Sub-Occupation

Based on sub-occupation following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{01.5}$	**There is no significant difference among consumers from different sub-occupation with social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services.**
$H_{a1.5}$	There is a significant difference among consumers from different sub-occupation with social awareness towards security and privacy while using **ATM/Cards (Debit/Credit)** services.

There is a significant difference among consumers from different sub-occupation related to test variable that "**Only one person is allowed to enter ATM cabin for transaction"** for variable sub-occupation (Chi square= 137.829, df=6, p = 0.000), with a mean rank of test variable of 335.86 for CA/CS,320.53 for engineers, 226.91for lawyers, and 356.31 for doctors,354.43for government employees, and 357.17 for private employees.There is a significant difference among consumers from different sub-occupation related to test variable that "**There is adequate privacy while using ATM"** for variable sub-occupation (Chi square= 145.599, df=6, p = 0.000), with a mean rank of test variable of 359.79 for CA/CS, 259.85 for engineers, 344.00 for lawyers, and 336.29 for doctors,413.54 for government employees, and 225.87 for private employees. There is a significant difference among consumers from different sub-occupation related to test variable that "**I am aware about the process if I forget my login password/login ID"** for variable sub-occupation (Chi square=229.889, df=6, p = 0.000), with a mean rank of test variable of 353.70 for CA/CS, 361.85 for engineers, 365.93 for lawyers, and 297.93 for doctors,200.65for government employees, and 451.50 for private employees. There is a significant difference among consumers from different sub-occupation related to test variable that "**My card information may be shared by the bank with 3rd party"** for variable sub- occupation (Chi square=89.901df=6, p = 0.000), with a mean rank of test variable of 221.38 for CA/CS, 124.80 for engineers, 303.84 for lawyers, and 281.35 for doctors,221.23 for government employees, and 249.41 for private employees. There is a significant difference among consumers from different sub-occupation related to test variable that "**Someone can use my name and information and apply for a credit card"** for variable sub-occupation (Chi square=72.662, df=6, p = 0.000), with a mean rank of test variable of 217.06 for CA/CS, 145.25 for engineers, 227.56 for lawyers, and 287.50

for doctors,239.82 for government employees, and 264.19 for private employees. There is a significant difference among consumers from different sub-occupation related to test variable that "**Someone can obtain a card through fraud application by obtaining all the information of a person who would be eligible to get a card"** for variable sub-occupation (Chi square=103.325, df=6, p = 0.000), with a mean rank of test variable of 194.45 for CA/CS, 131.09 for engineers, 255.13 for lawyers, and 295.46 for doctors,229.11 for government employees, and 238.26 for private employees. There is a significant difference among consumers from different sub-occupation related to test variable that "**Password should not be Date of Birth, Mobile no"** for variable sub- occupation (Chi square=75.832, df=6, p = 0.000), with a mean rank of test variable of 207.78 for CA/CS, 289.99 for engineers, 293.34 for lawyers, and306.16 for doctors,272.43 for government employees, and 384.33 for private employees.

Conclusion

The null hypothesis is rejected, there is a significant difference among consumers from different sub-occupation with social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services. It means consumers from different sub-occupation have difference in thinking about the above important factors of social awareness towards security and privacy while using ATM/cards(debit/credit) services. Finally, it concludes that a there is different influence about social awareness towards security and privacy while using ATM/cards(debit/credit) services among the consumers from different sub-occupation such as CA/CS, Engineers, lawyers, doctors, government employees and private employees.

Analysis of Chi square test on demographic factors for level of Social awareness towards security and privacy for Electronic banking services.

(a.) Gender

Based on gender following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{02.1}$	**There is no significant association among the consumers gender groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services.**
$H_{a2.1}$	There is a significant association among the consumers gender groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services.

From the cross tabulation & chi Square analysis have been made between level of social awareness & gender to evaluate the significant association between them. In this study overall seven factors were considered for the dimension of social awareness towards security and privacy while using ATM/Cards (Debit / Credit) services which are optimized into three levels known as low, moderate & high level. By the above table shows that consumers belong to high level of awareness i.e. 238(65.56%) and 125(34.43%) males & females respectively, consumers belong to low level of awareness i.e. 14(56%) and 11(44%) males & females respectively and consumers belong to moderate level of awareness i.e. 114(70.37%) and 48(29.62%) males and females. Chi square analysis shows chi square value as 2.470 and its p-value = 0.291 which is greater than level of significance .05, thus the null hypothesis is accepted, which shows there is no significant association among the consumers gender groups with the level of social awareness towards security and privacy while using ATM/Cards (debit /Credit) services. The phi value is .067 which shows that there is

no significant association among the consumers gender groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services.

b.) Age

Based on age following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services.

$H_{02.2}$	**There is no significant association among the consumers age groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services.**
$H_{a2.2}$	There is a significant association among the consumers age groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services.

From the cross tabulation & chi Square analysis have been made between level of social awareness & age to evaluate the significant association between them. In this study overall four factors were considered for the dimension of social awareness towards security and privacy while using ATM/ Cards (Debit/credit) services which are optimized into three levels known as low, moderate & high level. From the above cross table consumers belong to age group below 30 from which 97(26.72%) are highly aware,38(23.45%) are moderately aware and 6(24%) are low aware. Consumers belong to age group 31-45 from which 107(29.47%) are highly aware, 57(35.18%) are moderately aware and 5(20%) are low aware. Consumers belong to age group 46-62 from which 84(23.14%) are highly aware, 42(25.92%) are moderately aware and 8(32%) are low aware. Consumers belong to age group above 63 from which 75(20.66%) are highly aware,25(15.43%) are moderately aware and 6(24%) are low aware. Chi square analysis shows chi square value as 5.538 & its p-value is .477 which is greater than level of significance .05 thus the null hypothesis is accepted, which shows there is no significant association among the consumers age groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services. The phi value of the above analysis is .100 which shows that there is no significant association among the consumers age groups with the level of social awareness towards security and privacy while using ATM/Cards (Debit /Credit) services.

(c.) Education

Based on education following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{02.3}$	**There is no significant association among the consumers at different level of education with the level of social awareness towards security and privacy while using ATM/ cards (Debit and credit) services.**
$H_{a2.3}$	There is a significant association among the consumers at different level of education with the level of social awareness towards security and privacy while using ATM/ cards (Debit and credit) services.

From the cross tabulation & chi Square analysis have been made between level of social awareness & education to evaluate the significant association between them. In this study overall seven factors were considered for the dimension of social awareness towards security and privacy while ATM/Cards (Debit and credit) services which are optimized into three levels known as low, moderate & high level. From the above cross table consumers belong to primary level of education from which 58(15.97%) are highly aware, 20(12.34%) are moderately aware and 2(8%) are low aware. Consumers belong to secondary level of education from which 87(23.96%) are highly aware, 34(20.98%) are moderately aware and 1(4%) is low aware. Consumers belong to graduate level of education from which 83(22.86%) are highly aware, 50(30.86%) are moderately aware and 4(16%) are low aware. Consumers belong to Post Graduate level of education from which 135(37.19%) are highly aware,58(35.80%) are moderately aware and 18(72%) are low aware. Chi square analysis shows chi square value as 17.631 & its p-value is .007 which is less than level of significance .05 thus the null hypothesis is rejected and alternate hypothesis is accepted, which shows there is a significant association among the consumers at different level of education with the level of social awareness towards security and privacy while using ATM/ cards (Debit and credit) services. The phi value of the above analysis is .179 which shows that there is a significant association among the consumers at different level of education with the level of social awareness towards security and privacy while using ATM/ cards (Debit and credit) services.

d.) Occupation

Based on occupation following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/credit) services:

$H_{02.4}$	**There is no significant association among the consumers from different occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services.**
$H_{a2.4}$	There is a significant association among the consumers from different occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services.

From the cross tabulation & chi Square analysis have been made between level of social awareness & occupation to evaluate the significant association between them. In this study overall four factors were considered for the dimension of social awareness towards security and privacy while using ATM/ Cards (Debit /Credit) services which are optimized into three levels known as low, moderate & high level. From the above cross table consumers belong to Professional group from which 79(27.27%) are highly aware, 51(31.48%) are moderately aware and 10(40%) are low aware. Consumers belong to service group from which 100(27.54%) are highly aware, 50(30.86%) are moderately aware and 10(40%) is low aware. Consumers belong to business group from which 121(33.33%) are highly aware, 34(20.98%) are moderately aware and 5(20%) are low aware. Consumers belong to Labour group from which 43(11.84%) are highly aware,27(16.66%) are moderately aware. Chi square analysis shows chi square value as 15.240 & its p-value is .018 which is less than level of significance .05 thus the null hypothesis is rejected and alternate hypothesis is accepted, which shows there is a significant association among the consumers from different occupation with the level of social awareness towards security and privacy while using mobile banking services. The phi value of

the above analysis is 0.166 which shows that there is a significant association among the consumers from different occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit).

e.) Sub Occupation

Based on sub-occupation following sub-hypothesis is formulated to test consumer social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services:

$H_{02.5}$	**There is no significant association among the consumers from different sub-occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services.**
$H_{a2.5}$	There is a significant association among the consumers from different sub-occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services

From the cross tabulation & chi Square analysis have been made between level of social awareness & sub occupation to evaluate the significant association between them. In this study overall seven factors were considered for the dimension of social awareness towards security and privacy while using ATM/ Cards (Debit/Credit) services which are optimized into three levels known as low, moderate & high level. From the above cross table based on sub occupation professionals are categorized into CA/CS, Engineers, Lawyers and Doctors. The awareness level of each category as follows: consumers belong to CA/CS from which 31(8.5%) are highly aware, 9(5.55%) are moderately aware. Consumers belong to Engineers from which no one is highly aware, 32 (19.75%) are moderately aware and 8(32%) are low aware. Consumers belong to lawyers from which 36(9.91%) are highly aware, 4(2.46%) are moderately aware. Consumers belong to Doctors from which 32(8.81%) are highly aware,6(3.70%) are moderately aware and 2(8%) are low aware. Service class consumers are categorized into Government and private employees. The awareness level of Government employees is as follows:46 (12.67%) are highly aware,29(17.90%) are moderately aware and 5(20%) are low aware and the awareness level of Private employees is as follows: 54 (14.87%) are highly aware, 21(12.96%) are moderately aware and 5 (20%) are low aware. Chi square analysis shows chi square value as 107.839 & its p-value is .000 which is less than level of significance .05 thus the null hypothesis is rejected and alternate hypothesis is accepted, which shows there is a significant association among the consumers from different sub-occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services. The phi value of the above analysis is 0.443 which shows that there is a significant association among the consumers from different sub-occupation with the level of social awareness towards security and privacy while using ATM/Cards (Debit/Credit) services.

Findings of the study

1. The outcomes of gender wise distribution show that males and females have different opinion however their level of social awareness is similar with regards to security and privacy while using ATM/Cards (Debit/Credit) services**.**
2. The level of social awareness among all the age groups is comparative which means that the opinion of younger and middle age group is much like whatever a respondent from elder and older age groups**.**
3. Education wise analysis gives the information that the opinion of all the consumers varies regardless of their level of education which clearly shows that their level of social awareness goes on declining from high level of education to low level of education. Statistical analysis also support that highly educated groups have high awareness as compare to their counterparts**.**
4. Occupation wise analysis gives the information that the opinion of all the consumers varies on the idea of their occupation. The study also found that the extent of social awareness among the business class is higher as compare to professionals, service class and labor class. Further on analyzing sub occupation it was found that among professionals the level of awareness of lawyers is high as compare to CA/CS, engineers and doctors and among service class consumers' private employees are more aware than government employees.

Suggestions and Recommendation

To the consumers

PIN/password should not contain Date of birth, name or any other personal information. It should not be written in diary, cell phone or any other documents for avoiding the basic risks and fulfilment of primary objective of security and privacy. Never share your password with anyone including family members or to the bank employees

To the Bank

Proper 24X 7 helpline centers with fully trained employees having adequate knowledge about banking products so that they can give real time solutions to the problems of the consumers may face when they use the electronic banking services.

To the government

Government should make a provision of regular training to bank employees to foster a high level of awareness in them. The training provided should cover the fraud risks associated with the operations for which bank staff is responsible.

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