Asian Review of Social Sciences
ISSN: 2249-6319 (P) Vol.10 No.2, 2021, pp.30-34

DOI: https://doi.org/10.51983/arss-2021.10.2.2988

A Study on Users Perception and Awareness towards Digital Payment Security Threats among Youngsters in Chennai, Tamil Nadu, India

V. Parvathy[1] and D. Durairaj[2]
[1]Research Scholar, [2]Assistant Professor
Department of Commerce, College of Science and Humanities, SRM Institute of Science and Technology, Tamil Nadu, India
E-mail: parvathyv1995@gmail.com
(Received 20 June 2021; Revised 19 July 2021; Accepted 8 August 2021; Available online 12 August 2021)

***Abstract* - After demonetisation the usage of digital transaction is increased. Digital payment refers to doing money transaction through online with the help of internet. E wallets and prepaid payment instruments also introduced for the growth of digital payments. Since it is time saving and easy of doing transaction, users also slowly adopting the digital culture, but on the other side security related issues also faced by users. Digital payment security threats refer to stealing of information, unauthorised transaction, malware attack, and phishing. RBI and government of India have introduced guidance for digital transaction. This study focused on Chennai users' perception and awareness towards digital payment security threats among youngster in Chennai area.**
Keywords: **Digital Transaction, Security Threats, Users Perception and Awareness**

I. INTRODUCTION

Digital payment is the important tool for digital financial inclusion. Nowadays Paytm, Google pay, and many other payment platforms are preferred by users because its offering various services like mobile recharging, online shopping, payment of utility bills and much more. Using Online payment reduce the burden of carrying cash, it is time saving and easy of doing transaction, users also slowly adopting the digital culture on the other side Frequently online banking fraud cases were registered in India. To promote awareness about digital payment security government have introduce digital payment suraksha campaign, in that campaign awareness video have been created in five different language, digital payment suraksha campaign emphasis that if the users follow the dos and don'ts then the digital payments will be safe and easy.

To improve security for online payment 3D security protocol was created by Arcot system and it was first used by VISA. To enhance the adoption of digital payments platforms in a more safe and secure manner, The RBI initiated new Digital Payment Security Controls for regulated entities to setup strong governance on security control for digital payment channels. For protection purpose government of India has introduce free antivirus software M-Kavach for android mobile. Awareness program, protection software and strong secure mechanism are initiated for digital payment platform since online payment fraud cases are raising day by day. As per RBI guidance if the user has reported the fraudulent transaction within 4 to 7 days, the transaction amount or Rs 10,000 whichever is lower must be refunded by the wallet player. But some victims are hesitated to report the incident and the hacker will continue his business without hesitation, so this study is focused on the user's perception and awareness towards digital payment security threats among youngsters in Chennai area.

II. STATEMENT OF THE PROBLEM

Hackers use various tricks to cheat people and wipe out their bank accounts. The most common techniques used by the hackers are vishing, phishing, and hacking. E-wallet skimming is a trending cybercrime in India, fraud cases has registered regarding victim received KYC update calls and victim used to called without verifying the number, which is posted in Google randomly as customer care, these are the way created by the users for E-wallet skimming. Even though digital payments are more convenient, still some users are having the fear of using digital payment platform. Since Digital security threats will be the big challenge for digital India.

III. NEED FOR THE STUDY

Digital transactions will help the government keep a track on illegal transaction and it will help to eliminate the circulation of black money and counterfeit notes. Cashless payment system may also give a boost to the economy. Digital payments are gaining popularity in India and there are many apps providing digital payment services to the users. It has become a hassle-free and secure way to make payments. At the same time cyber security threats is a big challenge for the users.

IV. OBJECTIVES OF THE STUDY

1. To study the user's perception towards digital payment security among youngsters in Chennai area.
2. To analysis the user's satisfaction on digital payment security protection among youngsters in Chennai city.
3. To know the user awareness on digital payment security threats among youngsters in Chennai area.

V. LITERATURE REVIEW

(Safeena, 2012) examined the "Technology Adoption and Indian Consumers: Study on Mobile Banking". The important determinants discussed for mobile banking adoption are perceived to be usefulness, perceived ease of use, consumer awareness and perceived risk. The study reveals that perceived usefulness, ease of use and consumer awareness has a positive impact on the intention to adopt mobile banking while perceived risk has a negative impact on mobile banking.

(Singh, 2017) analysed the aspect of the "Security in Digital Payment system in India" and he concluded that the security issue must be taken seriously by the Government and RBI as well as Cyber Security of India and keep updating the Cyber Security Framework must be implemented strictly and in a timely manner. Cyber experts also suggest the effective way to handle cyber-attacks.

(Mathura, 2017) made "A Survey of Awareness about Security in E-payment System" The study reveals that the peoples are not so aware about the security concerns while making e-payments. There is a need to have awareness programs by the various agencies in this regard" and he concluded that the security issue must be taken seriously by the Government and RBI as well as Cyber Security of India and keep updating the Cyber Security Framework must be implemented strictly and in a timely manner. Cyber experts also suggest the effective way to handle cyber-attacks.

VI. RESEARCH METHODOLOGY

A descriptive research design was carried out to study the awareness on securities threats in digital payments among youngsters in Chennai area. Sample size 63 was collected. It's difficult to define the digital payment user's population in Chennai city so in this study we use non probability sampling in that we use snowball sampling for collecting data. A well-structured questionnaire was used to collect the data from sample respondents. Nonparametric test was used to analyses the collected data.

VII. RESEARCH HYPOTHESES

1. H_0*:* There is no significant difference between mean ranks of educational qualification with respect to perception towards digital payment security.
2. H_0*:* There is no significant difference among mean ranks towards awareness of security threats in digital payments.
3. H_0*:* There is no significant difference between mean rank of satisfied and non-satisfied user on digital payment protection with respect to awareness on digital payment security.
4. H_0*:* There is no association between age and marital status with users' reaction on digital security attack.

TABLE I DEMOGRAPHY PROFILE OF DIGITAL PAYMENT USERS

Measurable Variable	Items	Number of Respondents	Percentage
Age	15-20 Years	9	14.3
	21-25 Years	19	30.2
	26-30 Years	12	19.0
	31-35 Years	23	36.5
	Total	63	100.0
Gender	Female	15	23.8
	Male	48	76.2
	Total	63	100.0
Education Qualification	Up to HSC	5	7.9
	UG	4	6.3
	PG	33	52.4
	Professional	16	25.4
	5	5	7.9
	Total	63	100.0
Occupation	Student	12	19.0
	Private employee	46	73.0
	Housewife	5	7.9
	Total	63	100.0
Income level	Below 1 lakh	20	31.7
	1 lakh to 2 lakhs	19	30.2
	2 lakhs to 3 lakhs	13	20.6
	Above 3 lakhs	11	17.5
	Total	63	100.0
Marital Status	Single	28	44.4
	Married	35	55.6
	Total	63	100.0
Usage of digital payment in years	Less than one year	15	23.8
	1-3 years	30	47.6
	3-5 years	5	7.9
	Above 5 years	13	20.6
	Total	63	100.0

Note: N=63

Interpretation: From the above table most of the respondent are fall under 31-35 years age, they are male users, and they are post graduate, and most of the users are private employee and their annual income falls under below one lakh, and most of the users are married and they are using digital payment for past 3years.

H_0*:* There is no significant difference between mean rank of educational qualification with respect to perception towards digital payment security

TABLE II KRUSKAL-WALLIS TEST FOR SIGNIFICANT DIFFERENCE BETWEEN MEAN RANK OF EDUCATIONAL QUALIFICATION WITH RESPECT TOPERCEPTION TOWARDS DIGITAL PAYMENT SECURITY

User Perception Towards Digital payment security	Educational qualification					Chi-Square value	P value
	Up to HSC	UG	PG	Professional	Others		
RBI Security control guidance are easy to understand	37.30	49.75	33.83	23.25	28.4	10.189	0.03*
Two factor authentication for digital payment is highly preferable	35.4	24	34.91	31.69	16.8	6.627	0.157
3D security protocol provides additional protection for online transaction	47.9	27.5	31.59	33.31	18.20	8.148	0.086
Often changing PIN number is highly secure	41.9	11.75	31.67	36.81	38.5	10.046	0.04*
Digital payment suraksha educate the users about payment security	37	40	31.21	28.03	25.10	3.167	0.5

Note: 1. *denotes significant at 5% level

Interpretation: Since P value is less than 0.05, the null hypothesis is rejected at 5% level of significance. Hence concluded that there is a significant difference between mean rank of educational qualification with respect to perception towards digital payment security. User those who studied up to HSC their perception is 3D security protocol provide additional protection for online transaction, UG degree users perception towards digital payment security is RBI security control guidance are easy to understand. PG qualified users' perception towards digital payment security is digital payment security is two factors authentication for digital payment is highly preferable, Professional, and other users' perception towards digital payment security is often changing PIN number is highly secure.

H_0: There is no significant difference among mean ranks towards awareness of security threats in digital payments.

TABLE III FRIEDMAN TEST FOR SIGNIFICANT DIFFERENCE AMONG MEAN RANKS TOWARDS AWARENESS OF SECURITY THREATS IN DIGITAL PAYMENTS

Awareness of Security Threats in Digital Payments	Mean Rank	Chi-Square Value	P Value
Phishing	5.25	33.308	<0.001**
Vishing	5.21		
Hidden malware	6.06		
Digital Payment suraksha	5.43		
M Kavach	4.65		
USB Pratirodh	4.87		
Kaspersky	5.71		
Norton Mobile security	5.63		
McA Fee Mobile Security	6.06		
Avast	6.13		

Note: ** Denotes significant at 1% level

Interpretation: Since P value is less than 0.01, the null hypothesis is rejected at 1% level of significance. Hence concluded that there is significant difference among mean ranks towards Awareness of Security Threats in Digital Payments, based on mean rank, Avast (6.13) is the most familiar security software, followed by McA Fee Mobile Security (6.06) and awareness in security threats most of the users are aware about hidden malware attack (6.06). Few users are only aware about security software like M Kavach, USB Pratirodh and Digital Payment suraksha.

H_0: There is no significant difference between mean rank of satisfied and non-satisfied user on digital payment protection with respect to awareness on digital payment security.

TABLE IV MANN WHITNEY U TEST FOR SIGNIFICANT DIFFERENCE BETWEEN MEAN RANK OF SATISFIED AND NON-SATISFIED USER ON DIGITAL PAYMENT PROTECTION WITH RESPECT TO AWARENESS ON DIGITAL PAYMENT SECURITY

Awareness of Digital Payment Security	User Satisfied in Digital Payment Protection		Z Value	P Value
	Satisfied Users	Non-Satisfied User		
Often Used free wifi for Payment transaction	35.43	25.61	2.081	0.03*
shared personal information for KYC update Purpose only	35.13	26.16	1.907	0.05*
Used to search customer care number randomly in Google	34.99	26.43	1.822	0.06
Frequently downloaded applications (app's) from website	34.30	27.70	1.393	0.16
Never shared ATM/credit card details with others	31.23	33.43	0.535	0.593
Updating mobile application (apps) frequently	28.32	38.86	2.336	0.02*
Often used to open the link even though it is received from an unknown source	33.82	28.61	1.112	0.266

Note: * denotes significant at 5% level

Interpretation: Since P value is less than 0.05, the null hypothesis is rejected at 5% level of significance. Hence there is a significant difference between mean rank of satisfied and non-satisfied user on digital payment protection with respect to awareness on digital payment security. The user those who satisfied with the protection provided by the digital payment apps are often use free WI-FI for payment transaction and users those who are not satisfied with the protection provided by the digital payment apps are used to frequently update their mobile application.

H_0: There is no association between age and marital status with users' reaction on digital security attack.

TABLE V CHI-SQUARE TEST FOR ASSOCIATION BETWEEN AGE AND MARITAL STATUS WITH USERS' REACTION ON DIGITAL SECURITY ATTACK

Age & Gender	Classification	User Reaction to digital security attack				Total	Chi-square value	P value
		Approach to cybercrime detective	Facing the issue legally	Don't know what to do	Others			
Age	15-20 Years	7 (77.8%) [26.9%]	2 (22.2%) [9.5%]	0 (0%) [0%]	0 (0%) [0%]	9 (100%) [14.3%]	17.393	0.04*
	21-25 Years	7 (36.8%) [26.9%]	8 (42.1%) [38.1%]	2 (10.5%) [18.2%]	2 (10.5%) [40%]	19 (100%) [30.2%]		
	26-30 Years	4 (33.3%) [15.4%]	7 (58.3%) [33.3%]	1 (8.3%) [9.1%]	0 (0%) [0%]	12 (100%) [30.2%]		
	31-35 Years	8 (34.8%) [30.8%]	4 (17.4%) [19%]	8 (34.8%) [72.7%]	3 (13.0%) [60%]	23 (100%) [36.5%]		
	Total	26 (41.3%) [100%]	21 (33.3%) [100%]	11 (17.5%) [100%]	5 (7.9%) [100%]	63 (100%) [100%]		
Gender	Single	14 (50%) [53.8%]	12 (42.9%) [57.1%]	1 (3.6%) [9.1%]	1 (3.6%) [20%]	28 (100%) [44%]	9.080	0.028*
	Married	12 (34.3%) [46.2%]	9 (25.7%) [42.9%]	10 (28.6%) [90.9%]	4 (11.4%) [80%]	35 (100%) [55.6%]		
	Total	26 (41.3%) [100%]	21 (33.3%) [100%]	11 (17.5%) [100%]	5 (7.9%) [100%]	63 (100%) [100%]		

Note: 1. The value within ( ) refers to Row Percentage, 2. The value within [ ] refers to Column Percentage, 3. * Denotes significant at 5% level

Interpretation: Since P value is less than 0.05, the null hypothesis is rejected at 5% level of significance. Hence there is an association between age and gender with user's reaction to digital security attack. On the bases of row percentage that user age group between 15-20 years are approach to cybercrime detective, and on the gender based on column percentage most of the married users state that they don't know how to react for the digital security attack.

VIII. FINDINGS AND RECOMMENDATION

A. General Findings

This study focuses on digital payment users, in that we found out that most of the users are between 26-30 years, male users, private employee, married and they are PG degree holders, and their annual income will be below one lakh. They are using digital payment for past 3 years and also being afraid of hacking while doing digital transaction. Most of the users are preferring to use google pay for digital transaction.

B. Objective Findings

Highly qualified users are frequently changing their PIN number and password, because they are aware about the cyber-attack, and they know how to protect them. But up to users those who falls under UG level are not aware about the digital payment threats. From this study we found that most of the users are not aware about the digital suraksha campaign, which is initiated by our Indian government, still it yet not reaches to the Chennai based users.

In this digital Era various types of security threats exist in this world since most of the users are not aware about the existing security threats. Most of the users are satisfied with the protection provided by the payment application, due to this satisfaction they use free WI-FI connection for digital transaction this practice will led to cyber-attack and users those who are not satisfied with the protection provided by the applications are used to update their application frequently and they won't use free WI-FI connection for transaction purpose.

C. Recommendation

Digital security threats are a big challenge for digital India, government also creating awareness program but it's not reaching to all the end users. In India we have various schemes, mobile applications, security software and awareness campaign, but there is no awareness among south region people about our Indian government schemes and software. Since our study is based on Chennai city in that study, we found that most of the users are not aware about digital suraksha and M Kavach. This study shows clearly that our Chennai based youngsters are not aware about security software, so RBI should create awareness program for region wise then only it will reach to all the digital payment users of the country.

IX. CONCLUSION

India is the topmost country in real time payment transaction. Within few years paper money will disappear from circulation and India is half the way to reach that paper less transaction on the same time cyber threats also existing in the world. Our government needs to build strong cyber security to protect from cyber-attack. Fearless cash less India is a sign of healthy economy. Hence, we conclude that we need to create awareness about cyber security threats to all the digital payment users, the user become victim of cyber-attack when they are using digital payment platform without proper knowledge in existing cyber threats.

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