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A STUDY ON RISK PERCEPTION OF ONLINE PAYMENT SYSTEMS

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Abstract - Government of India's recent Demonetisation in November 2016 and the 'Digital India' initiative, launched in 2015 have provided substantial boost to the country's digital ecosystem. The pace of shift to digital payments has significantly increased with the strong move towards cashless economy. Online payment methods are used by a large population around the world. Since demonetization, India too has been slowly converting into a cashless society. Most of the purchases, these days, are made through online payment services. The present study focuses on determining consumers' perception and awareness regarding the risks involved in various online payment systems. E-payment systems may not be very popular in India yet, but they are slowly gaining popularity, especially among the younger consumers. As the reach of e-payment systems hasn't covered the older generations and the technologically backward consumers yet, only the younger generation and technologically capable consumers seem to be aware of the risks in e-payment systems and their reporting. Though e-payment systems come with a few unforeseen risks, consumers are still opting for them because of the convenience they provide.

Keywords: risks, online payments, perception

INTRODUCTION

Government of India's recent Demonetisation in November 2016 and the 'Digital India' initiative, launched in 2015 have provided substantial boost to the country's digital ecosystem. The pace of shift to digital payments has significantly increased with the strong move towards cashless economy. Over the past decade, the Internet has evolved from a specific resource for IT pros and computer geeks to a daily destination for people all over the world. Technology has inarguably made our lives easier. Recent years have seen an explosive growth in the online retail arena. One of the biggest technological innovations is in the area of banking, finance and commerce – the Electronic Payments. Electronic Payments or e-payments refer to the technological breakthrough that enables us to perform financial transactions electronically. E-payments have several advantages, which were never available through the traditional modes of payment. Some of the most important are- Privacy, Integrity, Efficiency, Acceptability, Convenience, Mobility and Anonymity. Perhaps the greatest advantage of e-payments is the convenience. Individuals can pay their bills and make purchases at unconventional locations 24 hours a day. There is no waiting for a merchant or business to open. On the flip side, with so many benefits to using e-payments, it's important to remember that there are negative aspects too. Some of the biggest downsides of e-payments are the lack of authentication, repudiation of charges and credit card fraud. E-Payment is widely used as a form of cashless payment to settle financial transactions. Despite the importance of cash as the preferred mode of payment, the use of payment cards as a form of Electronic Payment (E-payment) has been on the rise. E-payment confers various benefits both to consumers as well as businesses. From a

consumers' point of view, e-payment provides convenience and time savings. On the other hand, merchants' or service providers' would benefit from faster payment and better tracking of accounts. Keeping pace with the growth of digitalization, the risks that come with it are not far behind. The sudden surge and change in end user profile has led to various challenges in the digital payment ecosystem. With more and more users preferring digital payments, the chances of getting exposed to the risks associated are also increasing. The survey was conducted to understand India's perspective on the cyber security concerns around digital payments.

STATEMENT OF PROBLEM

The e-payment methods' penetration in India has increased since Demonetization and Digital India Initiative in 2016. It has become 23.5% in 2018 from 13.3% in 2016 (statista.com). With the increasing adoption of e-payment methods, the risks that come with them have also increased. This study focuses on such risks that are involved with the Electronic Payment Systems and its management.

OBJECTIVE OF THE STUDY

The present study focuses on the different risks perceived by the consumers that use online payment methods. Objectives for the study are:

- To study various risks perceived by the consumers in the use of e-payment systems.
- To study the awareness among online customers regarding e-payment risks and its reporting.

HYPOTHESIS

- **$H_0$1:** There is no significant association between the age group of the respondents and the various risks perceived by them in the use of online payment methods.
- **$H_0$2:** There is no significant association between the age of the respondents and their awareness regarding e-payments risks and its reporting.

RESEARCH METHODOLOGY

Data collection:

In the study a combination of both primary and secondary data has been used.

- Primary data has been collected with the help of a questionnaire which has been filled by consumers who use online payment systems.
- Secondary data such as journals, reports and other relevant websites have been used to support the study.

Sample size:

For the collection of primary data, a questionnaire was prepared and circulated amongst 200 respondents, out of which only 190 have filled the form and of them, 20 incomplete responses were eliminated, leaving 170 usable responses.

Period of study:

The primary data has been collected from online consumers during the period of December 15th, 2018 and January 10th 2019.

Sampling techniques and tools:

For the purpose of the study, convenience sampling was carried out by distributing the questionnaire online using Google Forms. The data collected has been analyzed with the help of Frequency Tables and Chi-Square Test was used to test the hypothesis. SPSS (IBM SPSS Statistics 22) and Excel were used to carry out the study.

SCOPE OF THE STUDY

Online payment methods are used by a large population around the world. Since demonetization, India too has been slowly converting into a cashless society. Most of the purchases, these days, are made through

online payment services. This study focuses on consumers' perception on various risks involved in e-payment methods in India.

LIMITATIONS

The following are the limitations of the study:

- The study covers a very small sample of 170 online consumers.
- Online consumers are spread across the globe, but the present study only covers the consumers from India.
- Online payment systems consist of many complexities and issues. But this study only covers the risks involved.

REVIEW OF LITERATURE

- According to **MritunjayKapur(2017**), after the announcement of demonetisation, channels such as Immediate Payment Service(IMPS), has witnessed a significant growth in transactions. The survey saw over 320 participants across age groups and different sectors who are the end users of digital payments platform in India. The survey showed that nearly 88% preferred cashless payments over cash payments and the ease of doing payments turned out to be the key promoting factor in the use of e-payment systems. It was also seen that lack of awareness and poor digital payment ecosystem were some of the primary reasons that have led to the increase in these risks.
- **BhairavAcharya(2017),** in his paper, stated the first step to be re-designing of digital payment systems in light of the privacy by design principle, which calls for default high-privacy technologies, always-on privacy controls, and end-to-end security through unbreakable encryption. Planners should proactively design privacy-sensitive systems on the basis of open standards.
- According to **Jason Lamb and SachaPolverini(2015),** digital payments form the foundation for digital financial services. The data was collected using a composite data set from observations of and interviews with more than 10 providers in Kenya and India. The study showed that there was a widespread agreement by consumers about the need to provide stability, integrity, and protection in a new environment of digital payments.
- The study aims to explore whether the level of perceived risks differ among cash and e-payments. The data for the study was collected from 400 respondents through self-administered questionnaires and SPSS was used to analyze the data. The inference from the study was that the success of implementation of e-payment system depended on how the risk dimensions perceived by consumers as well as sellers are properly managed, which in turn would improve the market confidence in these systems. **(Aw Yoke Cheng, Noor RaihanAb Hamid, EawHooi Cheng, 2009).**
- Payment system issues have become increasingly important during the last 10-15 years, and central banks as well as private operators and payment system participants have put in a lot of resources to analyze various payment system risks. The purpose of this paper is to discuss payment systems, their risks and developments and the international work of establishing universal standards for payment systems. From the assessments**, Kai Barvell(2002)** stated that risks, if not managed in a prudent way, could create a situation in which the financial market could stop functioning, leading to potential catastrophic development in a country's economy affecting, if grave enough, even the world economy.

DATA ANALYSIS AND INTERPRETATION

TABLE 1: DEMOGRAPHIC PROFILE

	Frequency	Percent
Age		
16-26	107	62.9
27-37	34	20.0
38-48	21	12.4
48-58	4	2.4
Above 58	4	2.4
Gender		
Female	98	57.6
Male	72	42.4
Occupation		
Employee	53	31.2
Self-employed	8	4.7
Student	102	60.0
None of the above	7	4.1
Income		
Upto 20,000	17	10.0
20,000-40,000	19	11.2
40,000-60,000	11	6.5
60,000 and above	29	17.1
Nil	94	55.3
Total	**170**	**100.0**

(Source: Primary data)

Of the 170 respondents that have taken the survey, 62.9% of them are of the age group ranging from 16-26 years, 20.0% of 27-37, 12.4% of 38-48, 2.4% of 48-58 and 2.4% of 58 and above. It is evident from the table that the survey was taken largely by the age group ranging 16-26 years. The table shows that of the total respondents that have given the survey, 58% of them are female and 42% are male. Students are the majority of the respondents to have participated in the survey, with a percentage of 60.0. It is seen that 10.0% of the respondents' income is upto 20,000, 11 % in the range 20,000-40,000, 7% between 40,000-60,000, 17% 60,000 and above and 55% don't earn.It is seen that the majority of the respondents do not earn as the survey has been taken by students in a large number.

TABLE 2: TYPE OF ONLINE METHOD

Type of online payment method aware of (multiple choice)	Frequency	Percent
Debit card	149	87.6
Netbanking	99	58.2
GooglePay	78	45.9
PayTm	107	62.9
Others	45	26.5

(Source: Primary data)

The table shows that of all the types of online payment methods, a large number of respondents, 149, were aware of Debit cards. 99 were aware of Netbanking, 78 knew about GooglePay, 107 knew PayTm and 45 knew other payment systems than those mentioned.

TABLE 3: PREFERRED PAYMENT METHOD

Payment method	Frequency	Percent	Rank
Debit Card	73	42.9	1
Netbanking	38	22.4	2
GooglePay	27	15.9	4
PayTm	36	21.2	3
Others	23	13.5	5

(Source: Primary data)

When asked to rank their preferences, 73 out of 170 respondents chose Debit card as their first preference, 38 of them chose Netbanking, 36 of them chose PayTm, 27 chose GooglePay and 23 chose other payment methods as their first preferences respectively.

TABLE 4: FREQUENCY OF USE

Frequency of use	Frequency	Percent
A few times	45	26.5
Frequently	62	36.5
Never	6	3.5
Very frequently	57	33.5
Total	170	100.0

(Source: Primary data)

The table shows that 26.5% of the respondents that took the survey used e-payment systems a few times, 36.5% used it frequently, 33.5% used it very frequently and 3.5% of them never used it. Majority of the respondents, 62 out of 170, used e-payment systems on a frequent basis.

TABLE 5: RARE USE OF CASH PAYMENTS IN A FEW YEARS

In a few years, people will hardly use cash to make a purchase	Frequency	Percent
Agree	68	40.0
Disagree	13	7.6
Neutral	38	22.4
Strongly Agree	48	28.2
Strongly Disagree	3	1.8
Total	170	100.0

(Source: Primary data)

28.2% of the total respondents strongly agree that in a few years, people will hardly use cash to make a purchase, 40% agree to it, 22.4% are neutral about it,7.65 disagree and 1.8% strongly disagree to it. The table shows that a majority of 68 respondents out of 170 agree to the statement that in a few years, people will hardly make any cash purchases.

TABLE 6: GROWTH OF E-PAYMENTS IN THE FUTURE

E-Payments are growing, and are expected to continue	Frequency	Percent
Agree	58	34.1
Disagree	1	0.6
Neutral	5	2.9
Strongly Agree	105	61.8
Strongly Disagree	1	0.6
Total	170	100.0

(Source: Primary data)

Of the 170 respondents, 105 strongly agree that e-payments are growing and are expected to continue to grow, 58 agree with it, 5 are neutral and 2 disagree.61.8% of the total respondents strongly agree that e-payment systems are growing and that they will continue to grow in the future too.

OBJECTIVE 1: To study various risks perceived by the consumers in the use of e-payment systems.

AGE AND RISKS

Null Hypothesis (H_0): There is no significant association between the age group of the respondents and the various risks perceived by them in the use of online payment methods.

Alternate Hypothesis (H_1): There is significant association between the age group of the respondents and the various risks perceived by them in the use of online payment methods.

TABLE 7: AGE * RISKS CROSS TABULATION

		Risks				Total
		Others	Service fee	Technical problems	Vulnerability to cyber risks	
Age	16-26	8	10	40	49	107
	27-37	1	2	8	23	34
	38-48	0	1	4	16	21
	48-58	0	0	2	2	4
	Above 58	0	0	0	4	4
Total		9	13	54	94	170

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.593[a]	12	.264
Likelihood Ratio	17.711	12	.125
N of Valid Cases	170		

(Source: Primary data)

The table shows chi square value as 0.264. This value, 0.264>0.05, so we accept the null hypothesis and conclude that there is no significant association between age and the risks perceived by the respondents.

TABLE 8: MAJOR RISKS

Major risks	Frequency	Percent
Others	9	5.3
Service fee	13	7.6
Technical problems	54	31.8
Vulnerability to cyber risks	94	55.3
Total	170	100.0

(Source: Primary data)

When asked about the major risks perceived by the users, 5.3% chose other risks that weren't mentioned, 7.6% chose Service fee, 31.8% chose Technical problems and 55.3% chose Vulnerability to cyber risks. A majority of 94 out of 170 respondents chose Vulnerability to cyber risks as the major risk that is involved with the e-payment systems.

TABLE 9: PROBLEMS FACED DUE TO E-PAYMENT SYSTEMS

Problems faced due to E-Payment Systems	Often		Rarely		Never	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Reduction in balance without the transaction being confirmed	24	14.1	96	56.5	50	29.4
Difficulty in getting a refund	45	26.5	82	48.2	43	25.3
Too many steps in processing a transaction	45	26.5	84	49.4	41	24.1
Long waiting time	32	18.8	98	57.6	40	23.5
Lack of clear guidelines	35	20.6	85	50.0	50	29.4
Non printing of statement	52	30.6	63	37.1	55	32.4
Non acceptance of card	35	20.6	84	49.4	51	30.0
Unprofessional customer service representative	38	22.4	81	47.6	51	30.0
Losing personal information	25	14.7	71	41.8	74	43.5
Lack of security in transactions	28	16.5	85	50.0	57	33.5

(Source: Primary data)

It is seen that 56.5% of the total respondents have rarely faced the problem of reduction in balance without the transaction being confirmed; 48.2% rarely faced a difficulty in getting a refund; 49.4% rarely faced a difficulty with too many steps in processing a transaction; 57.6% rarely had problem with the long waiting time; 50% rarely faced difficulty due to lack of clear guidelines; 37.1% rarely had the problem of non-printing of statements; 49.4% rarely faced problems due to non-acceptance of card; 47.6% rarely faced problems due to unprofessional customer service representative; 43.5% never had a problem of losing personal

information and 50% rarely faced the problem of lack of security in transactions. From the table it is evident that the customers only rarely encountered problems during the use of e-payment systems.

OBJECTIVE 2: To study the awareness among online customers regarding e-payment risks and it's reporting.

AGE AND RISKREPORTING

Null Hypothesis (H_0): There is no significant association between the age of the respondents and their awareness regarding e-payments risks and its reporting.

Alternate Hypothesis (H_1): There is significant association between the age of the respondents and their awareness regarding e-payments risks and its reporting.

TABLE 10: AGE * RISK REPORTING CROSS TABULATION

		Risk Reporting			Total
		Bank	Contact address on the website	Do not know who to approach	
Age	16-26	38	51	18	107
	27-37	17	10	7	34
	38-48	5	13	3	21
	48-58	0	4	0	4
	Above 58	3	1	0	4
Total		63	79	28	170

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.474[a]	8	.097
Likelihood Ratio	15.568	8	.049
N of Valid Cases	170		

(Source: Primary data)

From the table, the Chi square value is 0.097.Since the value 0.097>0.05, so the Null hypothesis is accepted and the Alternate Hypothesis is rejected, showing that there is significant no association between age and the awareness regarding risk reporting among the respondents. But, the value being not very greater than 0.05, it can be said that there could be very little association.

TABLE 11: REPORTING A SECURITY BREACH

Reporting a security breach	Frequency	Percent
Bank	63	37.1
Contact address on the website	79	46.5
Do not know who to approach	28	16.5
Total	170	100.0

(Source: Primary data)

When asked where they would report a security breach to, 37.1% chose Bank, 46.5% would contact the address on the website and 16.5% did not know who to approach.The table shows that a majority of 79 out of 170 respondents would contact the address mentioned on the website.

FINDINGS

The findings that could be inferred from the study were as follows:

- The study shows that Debit Card payments are the most prevalent and the most preferred type of online payment systems.
- Majority of the respondents use online payment methods on a frequent basis.
- The use of e-payment systems is growing and is expected to grow in the future too.

- Vulnerability to cyber risks is the major concern of the respondents that have taken the survey.
- The younger age group (16-26) is most aware of the risks that are involved in e-payment systems, their reporting and management while the elderly respondents weren't.
- Majority of the respondents have only rarely faced problems while using e-payment systems.
- Non printing of the transaction statement is the major drawback faced by majority of the respondents.
- A lot of respondents are aware where to approach when a risk has occurred.

CONCLUSION

The present study focuses on determining consumers' perception and awareness regarding the risks involved in various online payment systems. E-payment systems may not be very popular in India yet, but they are slowly gaining popularity, especially among the younger consumers. As the reach of e-payment systems hasn't covered the older generations and the technologically backward consumers yet, only the younger generation and technologically capable consumers seem to be aware of the risks in e-payment systems and their reporting. Though e-payment systems come with a few unforeseen risks, consumers are still opting for them because of the convenience they provide.

SUGGESTIONS

- Proper and regular watch from the government agencies on the functioning of the online payment gateways and timely solution of the problem, if any, without complex procedures and assuring people about their confidentiality of personal information.
- Measures to control the network traffic whenever the servers are down in order to cut down unsuccessful transactions.
- Enhancing the security and constantly developing it to protect customers' information.
- Implementation of effective cyber regulations.
- Awareness programs on e-payment platforms, its usage and the risks that come with them to the technologically backward populations.
- Making transactions on an unauthenticated websites should be avoided.
- Mandatory two step authentication through OTP, de-linking the net banking log-in credentials from the e-payment websites and mobile wallets and time bound automatic log-out system of e-payment gateways.
- Strict guidelines should be provided on the respective websites/apps regarding reporting of security breach and the steps to be taken for corrective measures.

REFERENCES

BIBLIOGRAPHY

- MrintunjayKapur - Digital payments-Analyzing the cyber landscape – April,2017
- BhairavAcharya - Privacy and security risks of digital payments – May, 2017
- Jason Lamb and SachaPolverini-Assessing risks in Digital Payments – February,2015
- Aw Yoke Cheng, Noor RaihanAb Hamid, EawHooi Cheng - Risk Perception of the E-Payment Systems: A Young Adult Perspective – December, 2009.
- Kai Barvell – Risks and Developments in Payment Systems – August, 2002

WEBLIOGRAPHY

- https://scialert.net/fulltextmobile/?doi=itj.2013.494.497
- http://www.cutoday.info/Fresh-Today/Eight-Risks-With-Electronic-Payments
- https://thatcreditunionblog.wordpress.com/2010/09/23/benefits-risks-of-electronic-payment-systems/
- http://paper.ijcsns.org/07_book/201711/20171118.pdf
- http://digital Payments - India Statista Market Forecast/
- http://privacy and security risks of digital payments ORF/