

A Study on Adopted Online Payment System for Rural Area Merchants In Dharmapuri Region

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ABSTRACT

Online payment system is use for rural area merchants. They are all pushed to after demonetization using online payment system .They had no awareness and knowledge about using online payment. Now a days they are routinely adopted by using online payment system. This study is to know the level of awareness and knowledge among the online payment system using to rural area merchants in Dharmapuri region. A pilot study was conducted by the data was collected through questionnaire and site visitation. The primary data was collected by through questionnaires were given to the rural area merchants those are using all using online payment system in our shops. The collected data was analyzed using the chi square test. It was found that the demographic variables of using online payment system.

Keywords: Credit Card, Debit Card, Smart Card, E-Money, Electronic Fund transfer, Mobile Banking.

I. INTRODUCTION

E-Commerce is the procurement and vending of things and facilities, or the spreading of moneys or records, over an online network, chiefly the internet. These business dealings occur either as business to business (b2b), business to consumer (b2c), consumer to consumer (c2c) and consumer to business (c2b). The terms e-commerce are regularly used interchangeably. E-Business is the behavior of business procedures on the internet. These online business procedures include procurement and vending crops, provides and facilities; servicing consumers; processing payment; handling manufacture control; cooperating with business collaborators; distribution knowledge; passing automated worker facilities; employing and more. Demonetization is an essential monetarist step in which a money unit's status as a legal tender is confirmed unacceptable. This is frequently done whenever there is a change of national money, exchanging the old unit with a new one. Such a step, for example India, Europe and Singapore.

II. REVIEW OF LITERATURE

1. (Neha Shorff, M. B, 2015) "The world is altering at an astounding amount and technology is measured to be the key driver for these modifications around us. An examination of knowledge and its uses show

that it has allowed in almost every feature of our life. Many movements are managed electronically due to the receiving of information technology (IT) at home as well as at work place. Slowly but progressively, the Indian purchaser is shifting towards the online banking. The ATM and the Net transactions are becoming trendy. But the consumers clear on one thing that he wants online-banking to be humble and the banking sector is similar its steps to the march of knowledge. E-banking or Online banking is a basic term for the distribution of banking facilities and goods through the electronic channels such as the telephone, the internet, the cell phone etc. The government of India passed the IT Act, 2000, which delivers legal appreciation to online transactions and other means of electronic commerce. The RBI has been organizing to promotion them self as controller and controller of the technologically directed financial system.

2. (Babatunde Ojetunde*)"A payment system in a disaster area is essential for people to buy necessities such as groceries, clothing, and medical supplies. However, existing payment systems require the needed communication infrastructures (like wired networks and cellular networks) to enable transactions, so that these systems cannot be relied on in disaster areas, where these

communication infrastructures may be destroyed. In this paper, we propose a mobile payment system, adopting infrastructure less mobile adhoc networks (MANETs), which allow users to shop in disaster areas while providing secure transactions. Specifically, we propose an endorsement-based scheme to guarantee each transaction and a scheme to provide monitoring based on location information, and thus achieve transaction validity and reliability. Our mobile payment system can also prevent collusion between two parties and reset and recover attacks by any user. Security is ensured by using location-based mutual monitoring by nearby users, avoiding thereby double spending in the system”.

3. (Tero Pikkarainen, 2004) Advances in online banking technology have created novel ways of using daily banking affairs, especially via the online banking channel. The acceptance of online banking services has been rapid in many parts of the world, and in the leading e-banking countries the number of e-banking contracts has exceeded 50 percent. Inspects online banking approval in the light of the outdated technology acceptance model, which is leveraged into the online environment. On the general of a focus group meeting with banking specialists, TAM literature and online banking studies, we develop a model indicating online banking getting among private banking consumers in Finland. The model was tested with a survey sample (n=268). The findings of the study signpost that apparent usefulness and information on online banking on the Web site were the main factors influencing online-banking receiving.
4. (Liang, 2014)The availability of social media and 4G Mobile Internet services boosts ecommerce markets. The online payment systems are an integral part of e-commerce. It becomes the growing need for online shopping and transaction to use secure and minimum cost third-party payment systems. In this paper, we present an online purchase system of BulaPay that is capable of integrating common e-commerce frameworks and shopping cart systems. Using a set of Web services and simple HTML as its interfaces, BulaPay supports finished payment transactions for a business process in a worldwide way. BulaPay not only enables consumers and shop owners to carry out their daily business on the Internet, but also provides them secure, flexible, reliable, and efficient services. This paper analyzed an overview of the BulaPay system. The

comparisons of our system to the existing third party payment systems are given.

5. (Roland Rieke*†, Fraud Detection in Mobile Payments Utilizing Process Behavior Analysis, 2013) Generally, fraud risk implies any intentional dishonesty made for financial gain. In this paper, we consider this risk in the field of services which support transactions with electronic money. Specifically, we apply a tool for prognostic security analysis at runtime which observes process behavior with respect to transactions within a money transfer service and tries to match it with expected behavior given by a process model. We evaluate the applicability of the proposed approach and provide measurements on computational and recognition performance of the tool – Predictive Security Analyzer – produced using real operational and simulated logs. The goal of the experiments is to detect misuse patterns reflecting a given money laundering scheme in synthetic process behavior based on properties captured from real world transaction events.

III. OBJECTIVES OF THE STUDY

- To know about merchant awareness and knowledge about online payment system.
- To Factors influencing the merchants for the use of online payment system.

IV. HYPOTHESES SETTING:

4.1 Hypothesis 1

- **H0** (null hypothesis): there is no significant association between the nature of business and gender.
- **H1** (alternative hypothesis): there is significant association between the nature of business and gender.

4.2 Hypothesis 2

- **H0** (null hypothesis): there is no significant association between the age and the business type.
- **H1** (alternative hypothesis): there is significant association between the age and the business type.

4.3 Hypothesis 3

- **H0** (null hypothesis): there is no significant association between the age and income level.

- **H1** (alternative hypothesis): there is significant association between the age and income level.

4.4 Hypothesis 4

- **H0** (null hypothesis): there is no significant association between the business type and income level.
- **H1** (alternative hypothesis): there is significant association between the business type and income level.

4.5 Hypothesis 5

- **H0** (null hypothesis): there is no significant association between the education qualification and business type.
- **H1** (alternative hypothesis): there is significant association between the education qualification and business type.

4.6 Hypothesis 6

- **H0** (null hypothesis): there is no significant association between the education qualification and income level.
- **H1** (alternative hypothesis): there is significant association between the education qualification and income level.

V. SCOPE OF THE STUDY:

This study will be useful in knowing the level of adopted of rural area merchant and thereby helps in improving the online payment system.

VI. RESEARCH METHODOLOGY

6.1 Research Design: Descriptive study

6.2 Data collection:

- Primary data

The primary data was collected by through the structured questionnaire from the respondent of rural area merchants.

- Secondary data

The secondary data was collected by articles, journals, funded projects and books.

6.3 Methods of data collection

The data was collected through questionnaire and site visitation. The questionnaires were given to the rural area merchants using online payment system in our shops.

6.4 Questionnaire design

Scaling technique – Likert type scale.

Questionnaire structured – Structured question (open ended and close ended).

6.5 Area of the study

Rural area merchant who are all using online payment system in Dharmapuri region.

6.6 Sampling design

The sample was collected by using the non-probability technique (convenient sampling method). The sample size taken was 30 for conducting the pilot study from the rural area merchant.

6.7 Tool used

For the purpose of analysis and interpretation, the data collected from the questionnaires were taken into consideration and analyzed using chi-square test.

VII. RESULT AND DISCUSSION

7.1 Hypothesis 1

- **H0** (null hypothesis): there is no significant association between the nature of business and gender.
- **H1** (alternative hypothesis): there is significant association between the nature of business and gender.

Business nature * gender Cross tabulation

		gender		Total	
		male	female		
Business nature	retailer	Count	9	5	14
		Expected Count	10.7	3.3	14.0
	Whole seller	Count	6	2	8
		Expected Count	6.1	1.9	8.0
	dealer	Count	5	0	5
		Expected Count	3.8	1.2	5.0
	others	Count	3	0	3
		Expected Count	2.3	.7	3.0
	Total	Count	23	7	30
		Expected Count	23.0	7.0	30.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		Monte Carlo Sig. (1-sided)			
				Sig.	95% Confidence Interval		Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound		Lower Bound	Upper Bound
Pearson Chi-Square	9.575 ^a	12	.653	.767 ^a	.615	.918			
Likelihood Ratio	10.603	12	.563	.800 ^a	.657	.943			
Fisher's Exact Test	10.194			.833 ^a	.700	.967			
Linear-by-Linear Association	.027 ^c	1	.870	.833 ^a	.700	.967	.367 ^a .194		
N of Valid Cases	30								

- 20 cells (100.0%) have expected count less than 5. The minimum expected count is .07.
- Based on 30 sampled tables with starting seed 624387341.
- The standardized statistic is -.164.

Table 2: Chi-square test for Hypothesis 2

Calculated value = 9.575, Asymptotic significance value = .653

Asymptotic significance value is greater than 0.05. Hence H0 is accepted and H1 is rejected.

Therefore there is no significant association between the age and the business type.

7.3 Hypothesis 3

- H0** (null hypothesis): there is no significant association between the age and income level.
- H1** (alternative hypothesis): there is significant association between the age and income level.

age * income Cross tabulation

		income					Total	
		<5000	5001-10000	10001-15000	15001-25000	>25000		
age	<25	Count	2	1	2	0	0	5
		Expected Count	1.5	1.2	1.3	.5	.5	5.0
	25-35	Count	3	3	4	1	1	12
		Expected Count	3.6	2.8	3.2	1.2	1.2	12.0
	36-45	Count	2	3	2	1	2	10
		Expected Count	3.0	2.3	2.7	1.0	1.0	10.0
	46-55	Count	0	0	0	1	0	1
		Expected Count	.3	.2	.3	.1	.1	1.0
	>55	Count	2	0	0	0	0	2
		Expected Count	.6	.5	.5	.2	.2	2.0
	Total	Count	9	7	8	3	3	30
		Expected Count	9.0	7.0	8.0	3.0	3.0	30.0

Table 3: Chi-square test for Hypothesis 3

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		Monte Carlo Sig. (1-sided)			
				Sig.	95% Confidence Interval		Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound		Lower Bound	Upper Bound
Pearson Chi-Square	17.262 ^a	16	.369	.333 ^a	.165	.502			
Likelihood Ratio	13.769	16	.616	.833 ^a	.700	.967			
Fisher's Exact Test	12.749			.867 ^a	.745	.988			
Linear-by-Linear Association	.000 ^c	1	.993	1.000 ^a	.905	1.000	.500 ^a .321		
N of Valid Cases	30								

- 25 cells (100.0%) have expected count less than 5. The minimum expected count is .10.
- Based on 30 sampled tables with starting seed 957002199.
- The standardized statistic is -.009.

Calculated value = 17.262, Asymptotic significance value = .369

Asymptotic significance value is greater than 0.05. Hence H0 is accepted and H1 is rejected.

Therefore there is no significant association between the age and income level.

7.4 Hypothesis 4

- H0** (null hypothesis): there is no significant association between the business type and income level.
- H1** (alternative hypothesis): there is significant association between the business type and income level.

Business type * income Cross tabulation

		income					Total	
		<5000	5001-10000	10001-15000	15001-25000	>25000		
Business type	sole	Count	5	1	1	1	2	10
		Expected						
		Count	3.0	2.3	2.7	1.0	1.0	10.0
		Count	1	4	3	1	1	10
		Expected						
		Count	3.0	2.3	2.7	1.0	1.0	10.0
		Count	2	2	3	1	0	8
		Expected						
		Count	2.4	1.9	2.1	.8	.8	8.0
		Count	1	0	1	0	0	2
		Expected						
		Count	6	.5	.5	.2	.2	2.0
	Count	9	7	8	3	3	30	
	Expected							
	Count	9.0	7.0	8.0	3.0	3.0	30.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		Monte Carlo Sig. (1-sided)	
				95% Confidence Interval		95% Confidence Interval	
				Lower Bound	Upper Bound	Lower Bound	Upper Bound
Pearson Chi-Square	9.522 ^a	12	.658	.767 ^a	.615	.918	
Likelihood Ratio	11.363	12	.498	.767 ^a	.615	.918	
Fisher's Exact Test	10.328		.700 ^b	.536	.864		
Linear-by-Linear Association	.085 ^c	1	.771	.900 ^b	.793	1.000	.533 ^b
N of Valid Cases	30						.355

- 20 cells (100.0%) have expected count less than 5. The minimum expected count is .20.
- Based on 30 sampled tables with starting seed 92208573.
- The standardized statistic is -.291.

Table 4: Chi-square test for Hypothesis 4

Calculated value = 9.522, Asymptotic significance value = .658

Asymptotic significance value is greater than 0.05. Hence H0 is accepted and H1 is rejected.

Therefore there is no significant association between the business type and income level.

7.5 Hypothesis 5

- H0** (null hypothesis): there is no significant association between the education qualification and business type.
- H1** (alternative hypothesis): there is significant association between the education qualification and business type.

Education qualification * business type Cross tabulation

		Business type				Total	
		sole	partners	family business	public sector		
Education qualification	pg	Count	3	6	3	0	12
		Expected					
		Count	4.0	4.0	3.2	.8	12.0
		Count	3	2	1	1	7
		Expected					
		Count	2.3	2.3	1.9	.5	7.0
		Count	3	1	1	1	6
		Expected					
		Count	2.0	2.0	1.6	.4	6.0
		Count	1	1	3	0	5
		Expected					
		Count	1.7	1.7	1.3	.3	5.0
	Count	10	10	8	2	30	
	Expected						
	Count	10.0	10.0	8.0	2.0	30.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)		Monte Carlo Sig. (1-sided)	
				95% Confidence Interval		95% Confidence Interval	
				Lower Bound	Upper Bound	Lower Bound	Upper Bound
Pearson Chi-Square	8.388 ^a	9	.496	.633 ^a	.461	.806	
Likelihood Ratio	8.681	9	.467	.800 ^b	.657	.943	
Fisher's Exact Test	7.855		.667 ^b	.498	.835		
Linear-by-Linear Association	.417 ^c	1	.518	.700 ^b	.536	.864	.433 ^b
N of Valid Cases	30						.256

- 16 cells (100.0%) have expected count less than 5. The minimum expected count is .33.
- Based on 30 sampled tables with starting seed 79654295.
- The standardized statistic is .646.

Table 5: Chi-square test for Hypothesis 5

7.6 Hypothesis 6

- H0** (null hypothesis): there is no significant association between the education qualification and income level.
- H1** (alternative hypothesis): there is significant association between the education qualification and income level.

Education qualification * income Cross tabulation

		income					Total	
		<5000	5001-10000	10001-15000	15001-25000	>25000		
Education qualification	pg	Count	1	4	5	0	2	12
		Expected						
		Count	3.6	2.8	3.2	1.2	1.2	12.0
		Count	3	2	1	1	0	7
		Expected						
		Count	2.1	1.6	1.9	.7	.7	7.0
		Count	2	0	2	2	0	6
		Expected						
		Count	1.8	1.4	1.6	.6	.6	6.0
		Count	3	1	0	0	1	5
		Expected						
		Count	1.5	1.2	1.3	.5	.5	5.0
	Count	9	7	8	3	3	30	
	Expected							
	Count	9.0	7.0	8.0	3.0	3.0	30.0	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)			Monte Carlo Sig. (1-sided)		
				Sig.	95% Confidence Interval		Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound		Lower Bound	Upper Bound
Pearson Chi-Square	16.083 ^a	12	.187	.100 ^a	.000	.207			
Likelihood Ratio	20.580	12	.057	.067 ^a	.000	.156			
Fisher's Exact Test	14.538		.100 ^a	.100 ^a	.000	.207			
Linear-by-Linear Association	.968 ^a	1	.325	.167 ^a	.033	.300	.100 ^a	.000	.207
N of Valid Cases	30								

a. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .50.

b. Based on 30 sampled tables with starting seed 1993510611.

c. The standardized statistic is -.984.

Table 6: Chi-square test for Hypothesis 6

Calculated value = 16.083, Asymptotic significance value = .187

Asymptotic significance value is greater than 0.05. Hence H0 is accepted and H1 is rejected.

Therefore there is no significant association between the education qualification and income level.

VIII. FINDINGS

HYPOTESIS	ASYMPTOTIC SIGNIFICANCE VALUE	RESULT	INFERENCE
1	.302	H0 is accepted and H1 is rejected	There is no significant association between the nature of business and gender.
	.653	H0 is accepted and H1 is rejected	There is no significant association between the age and the business type.
3	.396	H0 is	There is no

		accepted and H1 is rejected	significant association between the age and income level.
4	.658	H0 is accepted and H1 is rejected	There is no significant association between the business type and income level.
5	.496	H0 is accepted and H1 is rejected	There is no significant association between the education qualification and business type.
6	.187	H0 is accepted and H1 is rejected	There is no significant association between the education qualification and income level.

IX. CONCLUSION

From the study can be concluded that the demographic variables have an online payment system. It was found that the rural area merchants have no awareness and knowledge of online payment and they had pushed to after demonetization. Now a days they are adopted to use online payment system in rural area merchant in dharmapuri region. The study was conducted only in few merchants such as lack of time for the data collection. It would have been more utilization if it had been conducted in more rural area merchants in dharmapuri region. It is important to use online payment in all merchant in dharmapuri region. This study use to future research in Digital India project.

X. REFERENCES

- [1]. Babatunde Ojetunde*, N. S. (n.d.). An Endorsement-based Mobile Payment System for a Disaster Area. Nara, Japan: is.naist.jp.
- [2]. Liang, X. H. (2014, DEC 03). BulaPay: a novel web service based third-party payment system for e-commerce. Springer Science+Business Medi.
- [3]. Roland Rieke*†, M. Z. (2013, JUL 3). Fraud Detection in Mobile Payments Utilizing Process Behavior Analysis. <https://hal.archives-ouvertes.fr/hal-00841002>.
- [4]. Tero Pikkarainen, K. P. (2004, nov 3). Consumer acceptance of online banking: an extension of the technology acceptance model. ISSN 1066-2243, Volume 14 , 224-235.
- [5]. Abeer Musa, AlShare, Habib Ullah Khan* and Khaled A. "Factors influence consumers' adoption of mobile payment devices in Qatar." Int. J. Mobile Communications (2015): 670-689.
- [6]. Ahmedabad, Awareness & Usage of E-Banking Instruments in Semi-Rural Area around. n.d.
- [7]. Babatunde Ojetunde*, Naoki Shibata*, Juntao Gao*, Minoru Ito*. An Endorsement-based Mobile Payment System for a Disaster Area. Nara, Japan: is.naist.jp, n.d.
- [8]. Banphot Vatanasombuta, 1, Magid Igbariab, Antonis C. Stylianouc*, Waymond Rodgersd,2. "Information systems continuance intention of web-based applications customers: The case of online banking." <http://dx.doi.org/10.1016/j.im.2008.03.005> (2008): 419-428.
- [9]. H. ALBERT NAPILER, OLLIE N. RIVERS, STUART W. WAGNER, JB NAPIER. CREATING A WINNING E-BUSINESS. SECOND. DELHI, INDIA: CENGAGE LEARNING INDIA PRIVATE LIMITED, 2011.
- [10]. Jiaqin Yang, Mike Whitefield. E-Banking in Rural Area - Recent Trend and Development. Milledgeville, GA 31061: IIMA, 2005.
- [11]. Kalakota, Whinston. Frontiers of Electronic Commerce. Ed. LOW PRICE. LONDON: Dorling Kindersley(India) Pvt.Ltd., licensees of Person Education in South Asia., 1996.
- [12]. Liang, Xiaodi Huang • Xiaoling Dai • Weiqiang. "BulaPay: a novel web service based third-party payment system for e-commerce." Springer Science+Business Medi (2014).
- [13]. Mary Loonam, Deirdre O'Loughlin. "Exploring e-service quality: a study of Irish online banking." Marketing Intelligence & Planning 26 (2008): 759-780.
- [14]. Neha Shorff, Maitrey Bhagat. Awareness & Usage of E-Banking Instruments in Semi-Rural Area around Ahmedabad. Ahmedabad, India: <http://www.ijarcsms.com/>, 2015.
- [15]. Pawar, 1 Bittu Kumar | Sumit Brahme | Snehi Suman | Komal Phatak | Prof. A. M. Pune, India.: IERJ, Jan 2017.
- [16]. Qile He, Yanqing Duan, Zetian Fu, Daoliang Li. "An Innovation Adoption Study of Online E-Payment in Chinese Companies." Journal of Electronic Commerce in Organizations (2006): 48-69.
- [17]. Roland Rieke, Maria Zhdanova†, Jürgen Repp†, Romain Giot‡ and Chrystel Gaber‡. Fraud Detection in Mobile Payments Utilizing Process Behavior Analysis. Germany : <https://hal.archives-ouvertes.fr/hal-00841002>, 3 Jul 2013.
- [18]. "Fraud Detection in Mobile Payments Utilizing Process Behavior Analysis." <https://hal.archives-ouvertes.fr/hal-00841002> (2013).
- [19]. Sonja Grabner-Krauter, Rita Faullant. "Consumer acceptance of internet banking: the influence of internet trust." International Journal of Bank Marketing 26 (2008): 483-504.
- [20]. Tero Pikkarainen, Kari Pikkarainen, Heikki Karjaluoto and Seppo Pahlila. "Consumer acceptance of online banking: an extension of the technology acceptance model." ISSN 1066-2243 Volume 14 (2004): 224-235.
- [21]. Venkateswaran2, Souvik Roy1 and P. "Online Payment System using Steganography and Visual Cryptography." IEEE (2014): 1-5.
- [22]. [w.w.indianexpress.com/article/business/economy/what-is-demonetisation-what-are-different-ways-of-demonetisation-and-demonetisation-in-india-by-pm-modi-explained-4374115](http://www.indianexpress.com/article/business/economy/what-is-demonetisation-what-are-different-ways-of-demonetisation-and-demonetisation-in-india-by-pm-modi-explained-4374115)