"THE IMPACT OF DIGITAL WALLETS THREATS AND SAFETY MEASURES ON THE LEVEL OF USAGE" – A STUDY WITH REFERENCE TO CHENNAI

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ABSTRACT :Digital wallet refers to an electronic system that enables a person to make purchases on a commodity or commodity class basis. It is a device that safely stores the payment details and password of consumers for the variety of payment methods and websites. The wallet may be Computer, Web, Smartphone or hardware wallets. Any payment by online format is subject to the limitations and threats of data security, which contribute to an increase in safety awareness of the use of information. Electronic wallets are used in the banking, investment, insurance, retail, educational, travel, entertainment and utility industries. The objective of this research study is to determine possible risks and safety measures for safer management of e-wallets and increased accessibility. An empiric research was performed by surveying 80 respondents and evaluating the data obtained by applying statistical methods such as one direction ANOVA, Matched t-test by using SPSS and Confirmatory multivariate statistical using Amos software. A simple structural equation modelling is often used to define a relationship between dependent and independent variables.

Keywords: Electronic payments - Vulnerabilities - Bio Metric - Fraudster.

INTRODUCTION

Digital wallets are monetary accounts that enable clients to hold money, carry out transfers and monitor disbursements from electronic devices. These parts of the programme can be inserted into the mobile app of a bank or as a payment portal. They are also the key interface for using crypto currencies such as bit coins. It also eliminates the purpose of carrying a material wallet by storing all customer payment details safely and compactly. It does not need a bank account and helps those in more remote areas to link. There are four main types of wallets, such as Laptop, Web, Internet and Hardware. No matter what shape it takes, a digital wallet is based on encryption tech that replaces the old analogue wallet in financial transactions. You're learning from security and comfort. Merchants prosper from this because they are more safe against theft and sell more goods. A digital wallet system can be the perfect way to organise your finances.

RELATED STUDIES

Patel Dharmendra and Bosamia Monsi (2019), Extensively researched the vulnerabilities and risks of mobile wallets with regard to different applications such as Apple pay, Google pay, pay tm, free charge, Mobikwik, SBI friend, ICICI pay, Airtel money, jio money, payU money and HDFC Zap pay. In his report, he listed threat to Application Users, Mobile Devices, Mobile Wallet Apps, Merchant Threats, Service Provider Threats, Acquirer Threats, Payment Network Provider Threats, Card Issuer and Payment applications Provider Threats. He concluded that most of the solutions are applied due to the gradual improvement of wallets and also stressed the need to find solutions to particular threats to raise the confidence limits of wallet payments.

Ramesh Sardar(2016), Investigated perception and desire for the use of mobile wallets in Jalgaon City and accurately examined the influence of demographic variables on the use of mobile wallets. The research observed that the increase of smartphones and 3 G and 4 G Internet access has led to the robust development of electronic payments, such as digital wallets, of India. The study showed that the key uses of digital wallets are money transfer and mobile / DTH recharging, and immediate payment is a driving factor for the customer to implement the service.

Dr.Hem Shweta Rathore(2016), Evaluated how digital wallets are viewed by consumers and the variables that impact users in the acceptance of digital wallets. The research also examined the risks and

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obstacles faced by customers when using digital wallets. The study showed that the digital wallet is an alternative option for online payments and that consumer of digital wallets are happy with the various components of the service. The research also indicates that confidentiality, confidentiality and reliance on the Internet are three problems for users. The study proposed that, in order to improve the usage of digital wallets, users should be made aware of the features and advantages of digital wallets by simplifying their buying process and online payments.

STATEMENT OF THE PREDICAMENT

Digital wallets have gained traction among customers but have also challenged cyber criminals by placing false e-wallet applications on dupe people, intercepting online purchases by reading payment data from the Internet browser as the customer enters his credit card or bank account information, inserting malware to target the app, and collecting information from his phone to misuse it, Impersonation by a bank account using the stolen e-wallet information and password and hacking the device from remote locations.

OBJECTIVES OF THE STUDY

The primary goal is to recognize the most endangered emerging threats to e wallets and the dangers they pose to consumers. High-level protection mechanisms are also recommended for consumers to eliminate risks. The effect of vulnerabilities and protection on the degree of recognition and use has finally analyzed.

HYPOTHESES OF THE STUDY

1.   There is no significant involvement between the various threats to digital wallets.
2.   There is no relationship among threats and security measures of e wallets.
3.   The threats and security features have no impact on the usage level of end users.

SAMPLING PROCEDURE

*   Primary method of data collection from 80 respondents.
*   Random sampling method is used.
*   Survey is made through structured questionnaire.

LIMITATIONS OF THE STUDY

*   The study is limited to Chennai city only.
*   The respondent's answers are subject to their perceptions.
*   Only earning segments of society is considered.

ANALYSIS AND INTERPRETATION

Objective 1: To determine the association among the various e-wallet threat variables.

TABLE 1 – CHI-SQUARE ASSOCIATION AMONG THE VARIABLES OF THREATS

	Outdated OS	Publicwifi	Fake Access point	Malware app	Weak pin	Phishing mails	Unauthorizedaccess	Insecure connections	Weak payment authorization	Weak biometric	Lack of Due Diligence
Chi-square	12.400[a]	46.600[b]	31.400[b]	26.000[b]	18.600[b]	19.600[b]	32.000[b]	34.600[b]	14.000[b]	25.000[b]	29.400[b]
df	4	4	4	4	4	4	4	4	4	4	4
Asymp. Sig.	.006	.000	.000	.000	.001	.001	.000	.000	.007	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 12.5.

b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 10.0.

Source: Primary Data

The above chi-square table reflects the correlation of all hazard variables to a component named "THREATS TO DIGITAL WALLET" with a p value of 0.000 which is statistically exceptional at a 1 % level. Confirmatory factor analysis is used to classify the important threat / vulnerability and the following factor loadings are identified.

TABLE 2 - SCALAR ESTIMATES BY MAXIMUM LIKELIHOOD METHOD

Threat Variables			Unstandardized coefficients	S.E.	C.R.	Standardized coefficients	P

Threat Variables			Unstandardized coefficients	S.E.	C.R.	Standardized coefficients	P
Insecure connections	<---	Digital threats	.821	.120	6.842	.742	0.000
Public Wi-Fi	<---	Digital threats	.791	.136	5.819	.651	0.000
Weak pin	<---	Digital threats	.761	.132	5.747	.645	0.000
Phishing mails	<---	Digital threats	.780	.136	5.743	.644	0.000
Fake access point	<---	Digital threats	.708	.126	5.614	.632	0.000

Source: Primary Data

The above regression coefficient table indicates important hazard variables related to the analysis, such as unsafe links (0.742), public Wi-Fi use (0.651), insecure pin (0.645), phishing mail (0.644) and bogus access point providers (0.632) with a crucial p value of 0.000, which is significant at 1%. Therefore, the ultimate users should take safety measures to monitor these variables when attempting to transact through digital mode.

Objective 2: To analyse the relationship between threat and security of digital wallets

TABLE3: PAIRED SAMPLES TEST FOR ASSOCIATION BETWEEN THREAT & SAFETY MEASURES OF DIGITAL WALLETS

	VARIABLES	Paired Differences			t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean			
Pair 1	OS	0.55	1.321	0.148	3.725	79	0.000
Pair 2	Wi-fi	0.275	1.18	0.132	2.085	79	0.040
Pair 3	Access point	0.638	1.214	0.136	4.696	79	0.000
Pair 4	Malware/AV	0.438	1.349	0.151	2.902	79	0.005
Pair 5	PIN	0.488	1.45	0.162	3.008	79	0.004
Pair 6	Phishing/ SCM	0.313	1.143	0.128	2.446	79	0.017
Pair 7	Authorization	0.288	1.361	0.152	1.889	79	0.063
Pair 8	Connectivity	0.625	1.277	0.143	4.379	79	0.000
Pair 9	Bio metric	0.612	1.206	0.135	4.541	79	0.000
Pair 10	Due diligence	0.35	1.126	0.126	2.78	79	0.007
Pair 11	Payment	0.825	1.456	0.163	5.067	79	0.000

Source: Primary Data

The above-mentioned exhibition highlights the close correlation between hazard and security variables that are prevalent in e wallet transactions. At 1% level, the Operating software, Access Point Providers, Accessibility when transacting, Biometric Identification and Payment Authorizing procedures are seen to be highly important. Others are exceptional at a stage of 5%.

TABLE 4 - SCALAR ESTIMATES BY MAXIMUM LIKELIHOOD METHOD

Security variables			Unstandardized coefficients	S.E.	C.R.	Standardized coefficients	P

Security variables			Unstandardized coefficients	S.E.	C.R.	Standardized coefficients	P
Securitycontrolsmeasures	<---	Digital safety	.962	.116	8.278	.863	0.000
Updated OS	<---	Digital safety	.630	.102	6.208	.680	0.000
Contents Reading	<---	Digital safety	.514	.101	5.089	.575	0.000
Secured Connections	<---	Digital safety	.414	.085	4.847	.551	0.000
Awarenessaboutpublicwifi	<---	Digital safety	.537	.118	4.544	.521	0.000

Source: Primary Data

The above scalar estimations of the confirmatory factor analysis table shows the uniform coefficients of most important variables of security controls such as Network Management Protocols (0.863), Up-to - date Operating Software (0.680), Pre-Authorization Information Reading (0.575), Protected Connectivity (0.551) and Public Wi-Fi User Knowledge (0.521). These variables are significant at 1 % level and lead to a worthy conclusion by focusing on the safety precautions referred to above while using digital wallets.**Objective 3: To find out the impact of threats and safety measures on digital wallet users.**

TABLE 5: MODEL SUMMARY FOR IMPACT OF THREATS AND SAFETY ON USAGE

Model	R	R Square	Adjusted R Square
1	.835a	.697	.618

a. Predictors: (Constant), SAFETY, THREATS
Source: Primary Data

The model analysis reveals that the threat and safety measures have been explained to a standard of 69.7%. These factors have a major effect on the extent of usage.

TABLE 6: ANOVA FOR INFLUENCE OF THREATS AND SAFTY ON USAGE LEVEL

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.424	2	26.712	15.656	.000b
	Residual	131.376	77	1.706		
	Total	184.800	79			

a. Dependent Variable: LEVEL OF USAGE
b. Predictors: (Constant), SAFETY, THREATS
Source: Primary Data

The preceding ANOVA table indicates the potential level of threats and safety factors with a p value of 0.000 at 1 % level.

TABLE 7: COEFFICIENTS FOR INFLUENCE OF THREATS AND SAFTY ON USAGE LEVEL

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.699	.442		1.580	.118
	THREATS	-.123	.038	-.350	-3.210	.002

SAFETY	.267	.048	.605	5.555	.000

Dependent Variable: LEVEL OF USAGE
Source: Primary Data

The regression equation of usage Level is according to the threats and safety measures which is given by
$$Y = -0.350 X_1 + 0.605 X_2.$$
It indicates the effect of risks and weaknesses on the level of use i.e.-0.35 (negative) and protection issues (0.605, positive) with a crucial score of p = 0.002 and 0.000 which are statistically important at a 5 percent level. Structural Equation Simulation developed to understand the effect of weaknesses and safety measures on the basis of adoption and use.

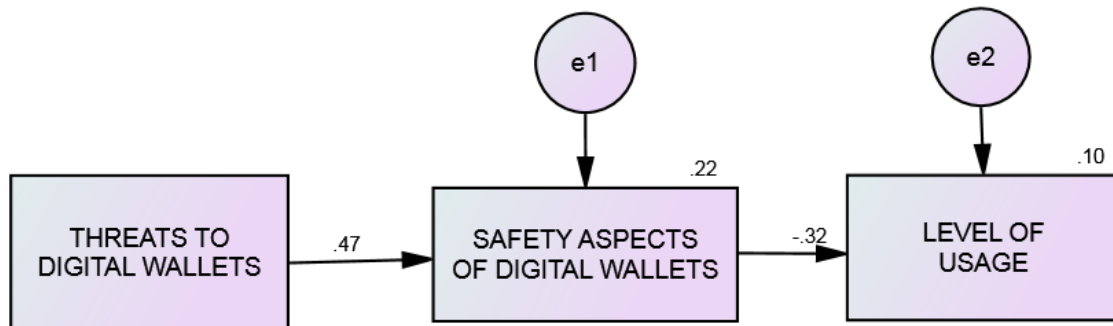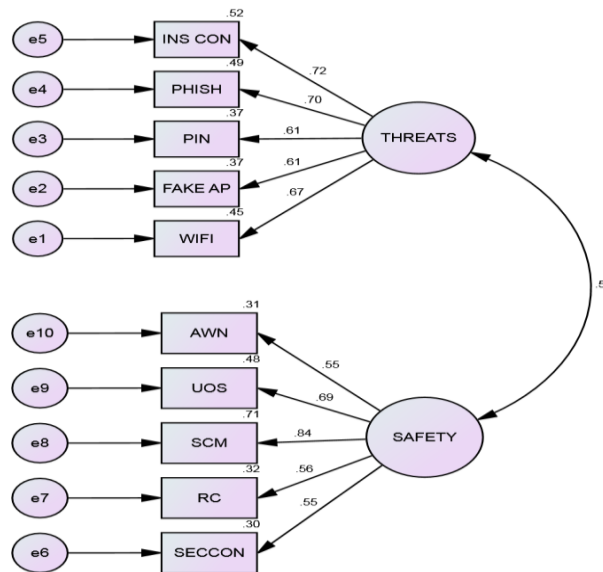**Fig 1: Structural Equation Modeling of Impact of threat and safety on Digital wallet users**

Fig2: COMPOSITE CFA OF THREATS AND SAFETY FOR DIGITAL WALLET USERS

SUGGESTIONS

As the increasing need and value of digital wallets cannot be overlooked, consumers must obey stringent security procedures and prevent the flaws involved with each and every phase of the approach to electronic payments and receipts.

CONCLUSIONS

Digital wallet delivers facilities at reduced prices, flexibility to consumers in the payment process by reducing the time involved in the process. The problem with conventional systems is the complexity, lack of surveillance, coverage and time involved in this operation. It is an automated, internet-based payment mechanism that stores financial value as well as personal identity related information. More protection initiatives to protect identity-related information will contribute to the use of digital wallets by many.

REFERENCES

Patel Dharmendra and Bosamia Monsi (2019), "Wallet Payments Recent Potential Threats and Vulnerabilities with its possible security Measures", International journal of computer sciences and engineering · January 2019

Ramesh sardar, (2016) , "Preference towards mobile wallets among urban population of jalgaon city", Journal of management, volume 3, issue 2, January–December (2016), pp. 01–11.

Dr.Hem Shweta Rathore (2016) ―Adoption of digital wallet by consumers‖ BVIMSR's journal of management research. Volume 8 issue 1, pp 69-75.

Urban, Jennifer. 2016. "Mobile Payments: Consumer Benefits & New Privacy Concerns". SocArXiv. July 18. osf.io/preprints/socarxiv/7pnxz

Security of Mobile Payments and Digital Wallets, ENISA December 2016, https://www.enisa.europa.eu/publications/mobile-payments-security/at_download/fullReport

Kasiyanto, Safari. "Security Issues of New Innovative Payments and Their Regulatory Challenges." In Bit coin and Mobile Payments, pp. 145-179. Palgrave Macmillan UK, 2016.