

Impact of Mobile Wallets Security on Consumer Attitude towards Use

Dr. Anju Singh, Ms. Aanchal Kalra

Assistant Professor, Research Scholar

Department of Commerce ,Department of Commerce

IIS (Deemed to be) University, Jaipur IIS (Deemed to be) University, Jaipur

ABSTRACT

Mobile wallets have become an indispensable part in the financial transactions. Digital revolution has led to the increase in the use of digital payment and reduced the cash payment somehow. However, security still remains an important concern which needs to be addressed. The threats related to cyber security hampers the use of mobile wallets for payments and transactions. In order to examine the real concerns of the consumer while using mobile wallets, it becomes necessary to understand the perception towards security of the consumer which ultimately affects their attitude towards the use of mobile wallet. The present study explores the consumer perception towards security of mobile wallets including i.e. safety, trust, risk, financial security, privacy, security breach, data integrity, and governance wallet and examines their impact on attitude towards use. The study has also investigated the difference in the opinion of the consumers on the basis of age. The responses were collected from 315 mobile wallet consumers via structural questionnaire. Multiple Regression and ANOVA has been used to analyse the responses. The study concludes that security issues and consumer attitude towards mobile wallet usage varies as per the age of the respondents. However, the consumers of all age groups are equally concerned about the security issues.

KEYWORDS: Attitude to Use, Security, Mobile Wallet, Consumer Perception, financial technology

Article Received: 10 August 2020, Revised: 25 October 2020, Accepted: 18 November 2020

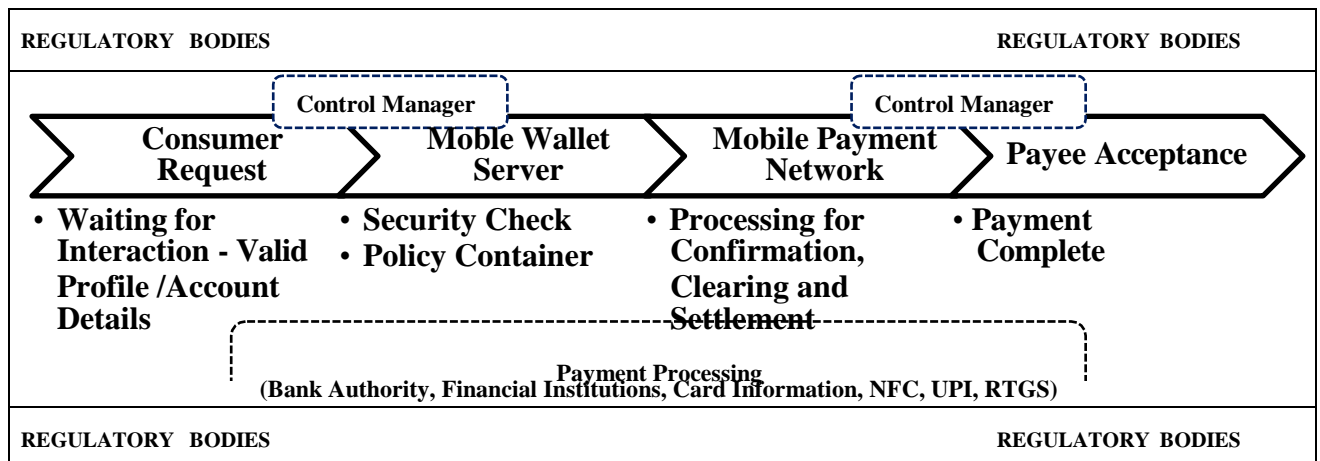
1. INTRODUCTION

1.1 Mobile Wallet - Overview

With the expansion and advancement of mobile technology, the mobile wallet applications emanate with huge innovation where consumer can easily monitor their all financial transactions through smartphones. In today’s time phase, mobile wallets have dramatically changed the thought-process of consumers. As per the statista research development report 2019, the volume of transaction via mobile wallets in India has been increased by 17 billion from 6 billion. In the current scenario consumers are depending upon electronic cash rather than physical cash where the most used were mobile wallets like Samsung pay, Phone PE, Paytm, BHIM UPI, Google pay, free charge, Amazon pay and many more etc. The main function of mobile wallets is electronic funds transfer and reducing physical exchange of money.

In short, Mobile wallet is a software-device through which an individual can transfer or receives their money from one person to another via mobile phones. The key features of mobile wallet applications are faultless transactions, transferability and cloud-based technology, privacy and security etc. By using these applications, the consumers can freely track their transaction, pay their bills, book tickets, and transfer their money in an easy and convenient way.No doubt these applications are useful and beneficial in nature but still consumer have different attitude regarding mobile wallets when it comes to security. In today’s world a transaction via mobile wallet have stick towards various secure protocols and provides various authentication security checks which has been regulated by government bodies. The figure 1 demonstrates the steps regarding mobile wallet payment system.

Figure 1- Mobile Wallet Payment System



1.2 Mobile Wallet Application- Security

Consumers use mobile wallet for their financial transaction on daily basis and mobile wallet firms provide latest secured and heavy encryption technology to protect the consumer information while using mobile wallet applications. Basically it provides a guarantee to mobile wallet consumer that their card information and bank details are safe and also fulfil the undertaking for any default in future. The most common practices are lack of awareness, using public Wi-Fi, sharing OTP with third party etc. For this study near about eight factors has been used to analyze the attitude to use mobile wallet applications. These are explained as below:

1. **Safety** – The mobile wallet applications provide various biometric authentications to ensure consumers feel secure to use these applications for their financial transactions.
2. **Trust** – Trust refers to an expectation based on consumer's belief to determine their perception towards using mobile wallet applications.
3. **Privacy** – Consumer believes that mobile wallet application are providing ethical, secured and encrypted database software to maintain their privacy.
4. **Risk** – When consumer feels that the mobile wallet application does not allow any unauthorized financial transactions.
5. **Financial Security** – It provides seamless and secure financial transactions to the consumers with the help of mobile wallet applications.
6. **Governance** – The consumer trust on government policies that are established for any mis-happing in financial transactions via mobile wallet application.
7. **Data Integrity** – The mobile wallet application assures that there is no loss of personal/sensitive data and it remains consistent throughout.
8. **Security Breach** – Consumer feels that mobile wallets protect their data breach related with private/confidential information from hackers.
- 9.

2. LITERATURE REVIEW

Dass. KPM (2020) this study provides a source for understanding the cyber security continuum and defines the framework that is capable enough to provide agile and tough cyber defence mechanisms.¹ Sharmila, K. (2019) analyzed the demographic characteristics and various selected aspects of difficulty which are faced by the mobile wallet users. The data has been collected via structured questionnaire through 60 respondents of Chennai. The study concludes that majority of respondent's uses mobile wallet services because of

safety, convenient and easy measure where services which users avail are ordering food item and booking movie and traveling tickets. It has been shown that mobile wallet users faced any hard problems towards network connectivity and getting refund while using mobile wallet.²ESWARAN, K. K. (2019) investigate the consumer perception towards digital payment adoption by analyzing the demographic factors. The data has been collected from 150 responses of Virudhunagar district. The study finds that all the demographic factors i.e. age, gender, income, profession affect the adoption of digital payments except education.³Abdulrahman, M. D., Alhassan, J. K., Ojeniyi, J. A., & Abdulhamid, S. M. (2018) analyze the security measures, vulnerabilities and threats associated towards mobile wallet applications as well as focuses on risk management aspect based on Pagatech Nigeria limited case study. Through structured questionnaire, data has been collected via students using mobile wallet services. The study reveals that mobile wallet providers must provide high level security measures, provide guidelines and create awareness time to time so that the fear from vulnerabilities and threads can't be attack by hackers.⁴ Bosamia, Mansi. (2018) express and highlights various threats and vulnerabilities measures which affect the mobile wallet applications by creating a threat model. The study has based on theoretical concept where the researcher has demonstrated high-level understanding for security measures towards mobile wallet application services.⁵Sardar, R. (2016) has examined the preference of mobile wallet services and investigates their impact of demographic characteristics towards mobile wallet in Jalgaon City. The data has collected via primary source under which the research reveals that there is no impact of demographic characteristics over the usage of mobile wallet services.⁶Rathore, H. S. (2016) analyzed the adoption of digital wallets over 132 respondents. The study mainly investigates the consumer's preference for digital wallets, which factors affects them more and what were the challenges faced by consumer's while adopting these services. The study concludes that consumers were adopting these services because of ease of use and convenience purpose.⁷Reddy, G. N., & Reddy, G. J. (2014) has studied on challenges of cyber security. The researcher has examined latest techniques, technologies and changing trends in cyber security. This study is conceptual in nature where the research has found no solution to control cyber-crime but suggests minimizing these crimes by taking various security measures.⁸

3. NEED OF THIS STUDY

Mobile wallets have become an indispensable part of consumer's day to day life. Extensive use of mobile wallets has also helped in the objective of financial

inclusion in the economy. According to reports India population is 1,380 million and 60% of them use mobile wallet application. It is often claimed that the information collected by the mobile wallets related to the debit cards, credit cards of other bank details are often stored in a coded form encrypted and are safe. However, a large number of users and non-users of mobile wallets still have security concerns. The increased number of security breach incidents has added to the fear of losing the personal data and is affecting the consumer attitude towards the use of mobile wallet. The present study is a thoughtful attempt to analyse the issue by investigating the impact of security factors on consumer's attitude to use mobile wallet application.

4. SCOPE OF THE STUDY

The present study explores the consumer perception about the security of mobile wallet. The research is an effort to investigate the impact of the security concerns on the consumer attitude towards

the use of mobile wallets. The study also inspects if there is any variance in the consumer perception towards mobile wallets security on the basis of age.

5. Research Objective

1. To explore the consumer perception towards the security of mobile wallets
2. To examine the impact of security concerns about mobile wallet on consumer attitude towards use.
3. To find out if there is any variance in the consumer security concerns of mobile wallets on the basis of age.

6. Hypothesis

H₀₋₁ There is no significant impact of security on the consumer attitude towards mobile wallets.

H₀₋₂ There is no significant difference in the consumer security concerns related to mobile wallets on the basis of age

7. Research Model: This model demonstrates the independent factor affecting the consumer's attitude to use mobile wallet application.

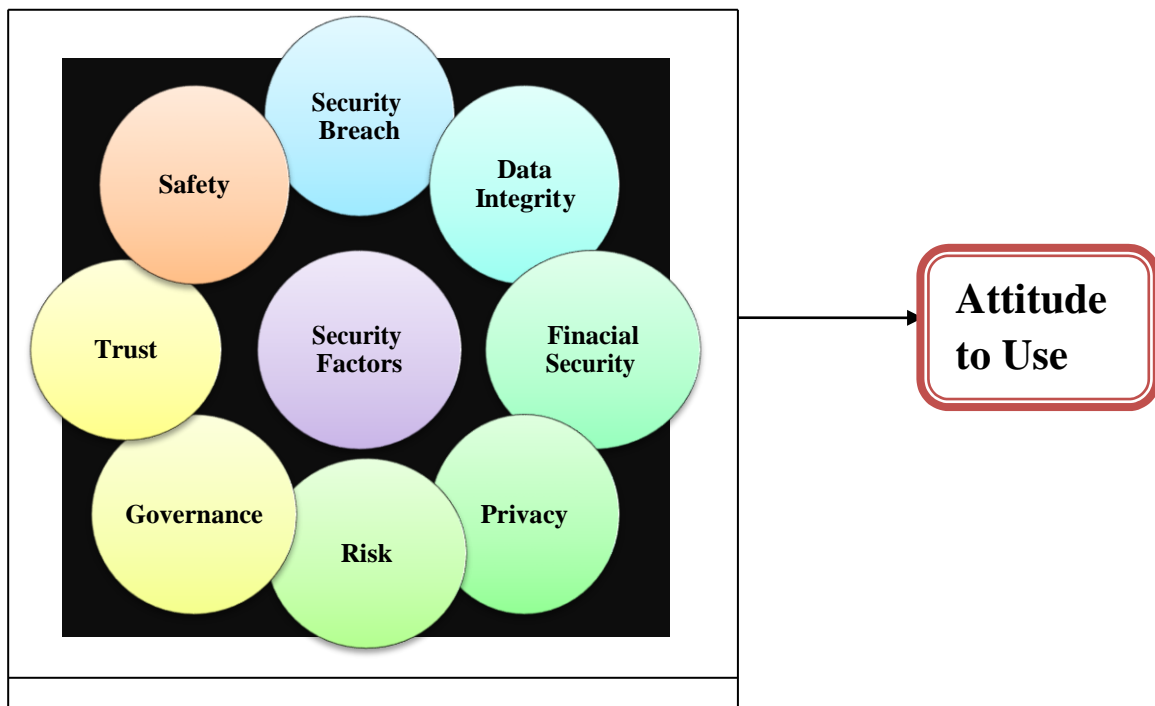


Figure 2- Research Variables

Attitude to Use – It defines as consumer's positive or negative or neutral outlook for using mobile wallets on regular basis or not.

8. RESEARCH METHODOLOGY

Methodology is a process to perform the research study by collecting and analysing the response apparently to join the relevance to the research motive. The present study is exploratory and descriptive in nature. The study explores the perception of the consumers towards mobile wallets and the impact of the same on the attitude towards use.

8.1 Sampling Design: Mobile wallet consumers is the universe for this research. Sample has been

collected from the mobile wallet consumers in the Jaipur City, Rajasthan. Convenience Sampling has been used and data has been collected via structural questionnaire from 315 mobile wallet consumers.

8.2 Data Collection Tools: Data depends upon both primarily i.e. structural questionnaire consisting eight security factors and 4 items measured consumer attitude regarding mobile wallet along with demographic profile. Secondary data has also been used via journals, survey reports research websites etc. has been utilized. 5-Point Likert Scale has been used to measure the perception of the respondents.

8.3. Reliability Statistics: The overall reliability of the factors of security is 0.871 which is good.

9. Data Analysis and Interpretation:

Table 1-Demographic Profile

Items	Description	Frequency	Percent	Total
Gender	Male	204	64.76	315
	Female	111	35.24	
Age	18 to 24	55	17.46	315
	25-34	105	33.33	
	35-44	72	22.86	
	45-54	35	11.11	
	55-64	35	11.11	
	65 above	13	4.13	
Occupation	Student	36	11.43	315
	Private Employee	101	32.06	
	Govt. employee	68	21.59	
	Business	55	17.46	
	Home maker	34	10.79	
	Retired person	21	6.67	
Marital Status	Married	184	58.41	315
	Unmarried	122	38.73	
	Any Other	9	2.86	
Income	0 - 2,50000	47	14.92	315
	2 ,50001-500000	49	15.56	
	5,00,001- 7,50,000	86	27.30	
	7,50,001-10,00,000	85	26.98	
	Above 10,00001	48	15.24	
Education	High School	7	2.22	315
	College Diploma	24	7.62	
	Graduate	77	24.44	
	Master’s Degree	150	47.62	
	Ph.D	31	9.84	
	Others	26	8.25	

(Source: Author’s survey)

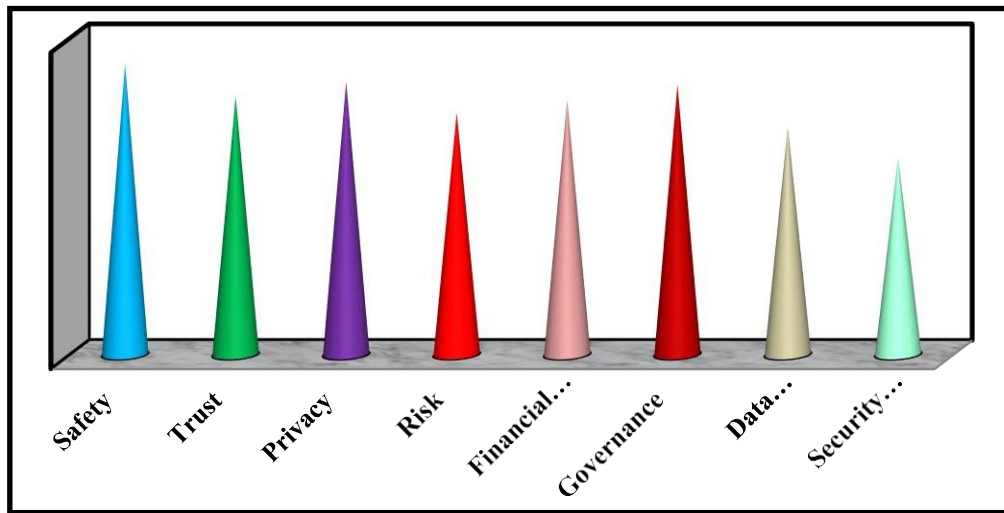
Table 1 exhibit the demographic profile where the males were 64.76% and females were 35.24% belonging to different age clusters. The highest age cohort is 25-34 with 33.33% and second highest is 22.86% (35-44). 32.06% participants working in private sectors whereas 58.41% were married and

27.98% of the respondents come under 5,00,001-7,50,000 income group. Near about 47.62% respondents were qualified with master’s degree. For testing the hypotheses SPSS software and excel sheet has been prepared and used for analysis.

Table 2 -Summary of Consumer Perception towards Security

Factor Name	Statement (Security Perception)	Mean of Ranking	Weighted Average Mean	Rank
Safety	Biometric Passwords/ Facial recognition etc.	1284	4	1
Trust	Trustworthy in Nature	1143	3.6	4
Privacy	Stores Personal Data in encrypted Database	1208	3.8	2
Risk	Minimizes False Transactions	1070	3.5	6
Financial Security	Assurance for any financial Loss	1128	3.6	5
Governance	Authentic Polices were there for any Mis-happening	1194	3.8	3
Data Integrity	Secures Personal Information	1008	3.2	7
Security Breach	Hacking can’t be made	871	2.8	8

(Source: Author’s survey)



(Source: Author’s survey)

Figure 3: Summary of Consumer perception towards Security

Implication- The above data demonstrates that mobile wallet respondents have full faith in terms of safety, privacy, trust and the governance which lies between first to fourth position regarding security measures provided by the mobile wallet applications whereas they were more concern about

financial security, risk, data integrity and security breach which lies from five to eight position.

9.1 Results and Discussion

The study has used three statistical tools i.e. Correlation, Regression and one way- ANOVA analyses for analysing the association between independent variable on dependent variables.

Table 3 – Statistical Correlations Model Summary

		Attitude to Use	Security Perception
Pearson Correlation coefficient	Attitude to Use	1.000	.623
	Security Average	.623	1.000
Sig. (2-tailed) p value .000 (95% confidence level)			

(Source: Author’s survey)

9.1.1 Pearson Correlation-Table 3 indicates the results of Pearson Correlation statistical summary, where the p value is 0.000 which less than 0.05. The Pearson correlation

coefficient value is .623 which reveals that there exist a positive moderate association between security perception and attitude to use.

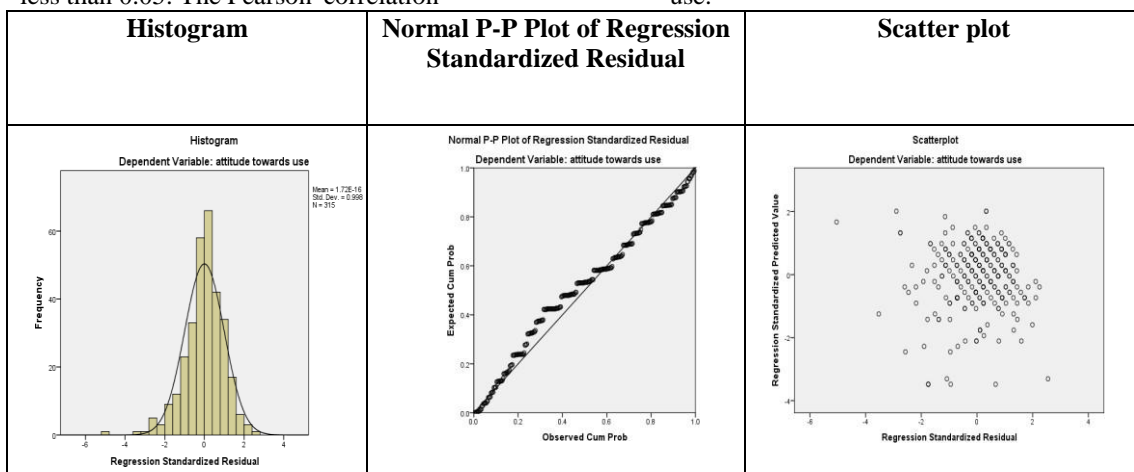


Chart 1: Summary of Regression Assumptions

Table 4: ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	76.420	1	76.420	198.763	.000 ^b
	Residual	120.341	313	.384		
	Total	196.761	314			

a. Dependent Variable: Attitude to Use b. Predictors: (Constant), Security Average

Table 5: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.623 ^a	.388	.386	.62006	1.617

a. Predictors: (Constant), Security Average
b. Dependent Variable: Attitude towards Use

Table6: Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.408	.173		8.120	.000
	Security Average	.677	.048	.623	14.098	.000

a. Dependent Variable: Attitude to Use

(Source: Author’s Survey)

The results of the Anova test (table 4) shows that the regression model is fit. Durbin-Watson ranges between zeros-less than 2 values and from table 4 also show that the value is 1.617(table 5) which means it has positive auto-correlation between security and attitude to use regarding mobile wallet. The results regression analysis model summary (table 5) shows the R² value is .388. Which means that 38.8% variance in the consumer attitude towards mobile wallets is caused through security concerns. The linear regression equation $\hat{Y} = a + bX$

\hat{Y} of the model has a constant α value as 1.408 and the β is .677.

9.1.2 ANOVA –Table 7 shows the outcome of ANOVA test analysis. It exhibits the variation among the group means of consumer’s age and security factors. The result discloses that the p value i.e. the significance value is .895 which proves that there exists statistically no significant variance in the consumer perception of security towards mobile wallets onthe basis of age.

Table 7 - ANOVA: Variance on the Basis of Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.884	5	.177	.330	.895
Within Groups	165.631	309	.536		
Total	166.515	314			

(Source: Author’s survey)

10. CONCLUSION: According to this study, the security factors have shown a positive association with consumer’s attitude to use mobile wallet and affects consumer’s attitude to use mobile wallet applications. Although there are significant other factors which are responsible for the consumer adoption of mobile wallets which can be explored. The concern for security of different age groups has no variation which means that security issues are equality important for all the age groups. Therefore, study has shown that security factors are one of the important and prominent factors that would affect the consumer’s attitude to use mobile wallet services. Hence the mobile wallet firms needs to promote some educational and promotional programmes to acquire non users also. Consumer’s awareness and knowledge towards best security practices is imperative for building trust among the consumers.Mobile wallet

firms need to provide more high skilled security measures to cover those users who are not feeling secure to use mobile wallet applications. In terms of data breach better security measures must be developed and adopted so that consumers will feel protected while using mobile wallet.

Future Scope: The impact on consumer perception towards mobile wallets can be explored moreby taking into consideration many other factors which are not discussed in the paper. The consumer perception can be examined on the basis of other demographic factors also. Detailed investigation on the user’s and non users can also be conducted.

REFERENCES

- Abdulrahaman, M. D., Alhassan, J. K., Ojeniyi, J. A., & Abdulhamid, S. M. (2018). Security Risk Analysis and

Management in mobile wallet transaction: A Case study of Pagatech Nigeria Limited. *International Journal of Computer Network and Information Security*, 10(12), 21.⁴

- Bosamia, M. (2018). Mobile Wallet Payments Recent Potential Threats and Vulnerabilities with its possible security Measures.⁵
- Dass. KPM. (2020), Battlespace and Cybersecurity Interlocked-A Digital Age Imperative. The Digital Age, Cyber Space, and Social Media The Challenges of Security & Radicalization IPAG International FZE IPAG Europe IPAG.¹
- Eswaran, K. K. (2019). Consumer Perception towards Digital Payment Mode with Special Reference to Digital Wallets.³
- Sardar, R. (2016). Preference towards mobile wallets among urban population of Jalgaon city. *Journal of management (JOM)*, 3(2), 1-11.⁶
- Rathore, H. S. (2016). Adoption of digital wallet by consumers. *BVIMSR's journal of management research*, 8(1), 69.⁷
- Reddy, G. N., & Reddy, G. J. (2014). A Study of Cyber Security Challenges and its emerging trends on latest technologies. *arXiv preprint arXiv:1402.1842*.⁸

- Sharmila, K. (2019). A Critical Evaluation of Mobile Wallet in Chennai City.²

WEBLIOGRAPHY

- <https://www.paladion.net/blogs/comm-on-security-vulnerabilities-in-a-digital-wallet>
- <https://www.slideshare.net/MargitAngImaier/dimoco-mobile-payments-presentation>
- <https://www.techopedia.com/definition/13484/vulnerability>
- <http://vikaspedia.in/e-governance/digital-payment/tips-for-securing-your-digital-payments/securing-e-wallets>
- <https://www.statista.com/statistics/731643/mobile-wallet-transaction-volume-india/>
- http://cashlessindia.gov.in/cyber_security.html
- https://www.cisco.com/c/en_in/products/security/what-is-cybersecurity.html
- https://www.academia.edu/42602599/The_Digital_Age_Cyber_Space_and_Social_Media_The_Challenges_of_Security_and_Radicalization_IPAG_International_FZE_IPAG_Europe_IPAG