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Study of security issues and solutions for E-wallet transactions

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ABSTRACT
An electronic wallet (E-wallet) is an application which used for paying bills, purchasing goods online, transferring money, booking tickets and for many other online transactions. It is mainly used for cashless transactions. It's very convenient online payment method. It is user friendly. Individual have to download an e-wallet app to make e-payments. All the transaction can be done remotely. Because of its distinctive advantageous features it gaining attention from different age groups. As e-wallet's works using internet it creates a set of new risks and vulnerabilities like security threats. This paper focuses on security issues related to e-wallet transaction and tries to give the different kinds of solutions on it.

Keywords: E-payment, E-commerce, Security, E-wallet

1. INTRODUCTION

India's honored prime minister took a massive step on the evening of 8 November 2016 by announcing that two of India's highest denomination currency notes (500 rupee notes and 1000 rupee notes) will not remain a legal tender. Government emphasizes cashless transactions for individuals. As a consequence, India is heading slowly towards a cashless economy. Due to demonetization the digital payment leads to an increase in online transactions. Various types of payment methods are used for online transactions such as credit card, debit card, NEFT from which E-wallets receive effective attention.

1.1 E-Wallet

E-wallet is a system that stores customer data for easy online purchases. An electronic device that enables a person to conduct electronic transactions refers to a digital wallet. It can be used in tandem with mobile payment systems that allow customers to purchase using Near Field Communications, QR codes etc. on their smart phones.

E-wallet is a form of prepayment account that allows a user to store its money for any future online transaction. The most common criterion for a cash-free economy is for the replacement of all transactions with cards and digital methods, so as to minimize physical money. A variety of topics will include technical sophistication, new innovations and the intercession of governments in cashless transactions. E-wallets have seen a fascinating run, from cash to electronic wallets.

1.2 Types of E-Wallet

The ' e-wallets ' policy can be divided into three groups according to the Reserve Bank of India.

Closed e-wallets: wallets issued by a corporation for the purchase of goods and services from them. These are wallets they cannot allow withdrawal or redemption of cash. For issuing them, therefore, RBI approval is not necessary. For examples: Cab platforms (like Ola Cabs), e-commerce services (like Jabong, First Cry, Flipkart) and mobile companies are building e-wallets to purchase products from and use their services.

Semi-closed e-wallets: these are the wallets of purchase for goods and services in retail outlets / institutions, including financial services under the contract with the issuer. The wallets do not allow the owner to remove or pay cash. MobiKwik, PayU, PayTM, Citrus and Airtel Cash are the best examples in this e-wallet category.

Open wallet: these wallets can be used to purchase products and services such as financial services, such as transfers of funds from commercial locations or point of sale card acceptances and cash withdrawals from automated cardholding machines. For E.g. In collaboration with ICICI Bank, M-Pesa is an open wallet run by Vodafone.

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2. OBJECTIVE OF THE STUDY

- Study the working of E-Wallet.
- Understand the steps of ordering online shopping.
- Discuss the different security issues in E-Wallet.
- Understand the safe online shopping instructions.

3. WORKING OF E-WALLET

E-Wallet allows multiple credit cards, debit cards and bank account information to be stored in order to make quicker payments. Up to 10 separate credit and debit card profiles can be created and up to 10 separate current and saving accounts can be created. Such profiles can be edited and removed as needed. After login to Account, you save time by automatically filling credit or bank account information. For credit card, debit card and electronic check processing, e-Wallet stores all the basic information. The card size, the account number and the expiry date are included for credit cards and debit cards. The account name, bank routing number and checking or saving number are included for the electronic check.

Fig-1: Mobile Wallet Working (Source: jagranjosh.com)

4. PROCESS OF ONLINE SHOPPING -STEPS TO PLACE AN ORDER

In online shopping, protection is very critical. Nowadays, an enormous amount has been bought on the internet because it's easier and easier. One can buy almost anything, including toys, music, cars, food and many more. Even if some of these buys are illegal, we should focus on all things that can purchase on the internet legally. Some of the most popular web sites include eBay, iTunes, Amazon, HMV, Mercantila, dell, Best Buy etc.

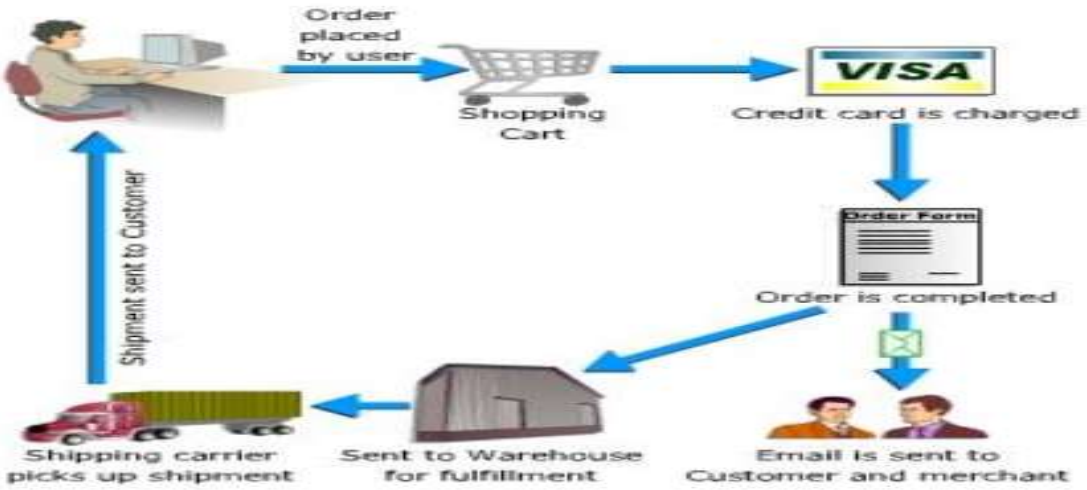

Fig-2: Online Shopping Steps

(Resource: http://onlineshoppingproducts.blogspot.in/2010/10/online-shopping-steps-to-place-order.html)

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5. ADVANTAGES OF E-WALLET TRANSACTION

- Easy to pay and to pass recurring payments.
- Payments everywhere in the world send and receive.
- Just handle our mobile phone account.
- The prepaid MasterCard is eligible for the World Ventures brand.
- Buck for our credit card and bank accounts.
- Total control over the entirety of all activities.
- Unlimited email or SMS alerts after transactions.
- Download our commissions quickly.
- Upload money from any bank account into our e-wallet.
- Receive directly through our e-wallet wired funds / transfers.
- No worldwide bank account.
- Note that money will be moved from e-wallet to e-wallet without sharing personal account numbers.

6. SECURITY ISSUES RELATED TO E-WALLET

Following are some risk related to E-Wallet Transaction

App risks for consumers-Installation of rogue, ransom ware, phishing and social media applications.

Threats to mobile devices- unauthorized access, loss or theft of device.

Threats to retailers – Selling point (POS), malware, MiTM and replay attacks.

Threats to payment services providers and customers-compromise of payment system and network access.

Mobile apps and wallet risks-reverse engineering, defrauding payment and root kits.

Threats to issuers – compromise method of payment acceptance, compromise token data.

Providers of Payment Network Threats- breach token service and denial of service.

Mobile payment systems Providers risks – sensitive data compromising, cloud-managed user profile compromise, token compromising and service denial attacks.

7. SAFE ONLINE SHOPPING INSTRUCTIONS

Keep your credentials Secure: Avoid entering in a single-view or storing in an unsecured file details used to access digital wallets to avoid their misuse.

Activate Device Passwords: Strong user passwords, tablets, and other devices should be enabled prior to use of e-wallets.

Use Secure Network Connections: Only trustworthy networks must be connected. Stop using public wireless internet networks. More secure and trusted wireless link such as "WPA or WPA2" should be used that requires a strong password.

Made a Digital Wallet Unique Password: Using hard to guess digital wallet-unique password to avoid unlicensed access.

Identify contact points when a fraudulent issue arises: An individual card in the pocket or account has been compromised in cases of fraudulent activity on the user's account in situations such as the loss or stolen of a phone; the user shall recognize the correct contact points to resolve the problem. The customer must fully understand the contractual terms and conditions of the e-wallet provider.

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Download Apps from trusted sources: User reviews and ratings can provide insights into the credibility of the e-wallet program. The customer has to verify that the e-wallet provider has a good legacy to manage sensitive financial data safely, reliable and convenient and help the client.

8. CONCLUSION

E-wallets are quickly accepted as a common payment method and will gain significant share in the near future as a tool for payment both online and offline. Days are not far away when most payment is done through our mobile cameras scanning the bank account to pay bills on virtual wallets for shopping. This study indicated that people tend to avoid using traditional methods of payment, data protection issues and security threats, because they have little preference for E-wallet as a means of payment. E-wallet users place great importance on attributes such as health, privacy and pricing.

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