Electronic Commerce and E-wallet

Abhay Upadhayaya

Department of ABST,University of Rajasthan,Jaipur, India

Email: abhayu@rediffmail.com

Abstract- **In electronic commerce, the challenges of payment transactions were initially underestimated. Business via the internet and mobile telephony has so far been dominated by the methods of payment systems in traditional business. However, in light of advances in e-commerce, traditional business models are increasingly coming up against their limits. To understand the concept of electronic commerce, E-wallet is a convenient, easy-to-use, secure global payment system. It is flexible "personal banking system" with a number of payout and pay-in options. I-Payout use the latest security systems to ensure E-wallet security.**

Keywords- E-Wallet, Mobile commerce, Electronic payment system, Microsoft Wallet

I. INTRODUCTION

Traditionally, a customer sees a product, examines it, and then pays for it by cash, check, or credit card. In the e-commerce world, in most cases the customer does not actually see the concrete product at the time of transaction, and the method of payment is performed electronically. Electronic payment system or EPSs enable a customer to pay for the goods and services online by using integrated hardware and software systems. The main objectives of EPS are to increase efficiency, improve security, and enhance customer convenience and ease of use. Although these systems are in their immaturity, some significant development has been made for business-to-consumer (B2C) transactions the development and use of online payment systems were identified as important concerns [1]. Nonetheless B2C e-commerce is currently growing at around 25% per year and growth has been much higher in some segments (*e.g.* travel).

II. PAYMENT CARDS

Business people often use the term payment card as a general term to describe all types of plastic cards that consumes use to make purchases. The main categories of payment cards are credit cards, debit cards, and charge cards.

A. Credit card

Has a spending limit based on the user's credit history; a user can pay off the entire credit card balance or pay a minimum amount each billing period.

B. Debit card

Removes the amount of the sale from the cardholder's bank account and transfers it to the seller's bank account.

C. Charge card

Carries no spending limit, and the entire amount charged to the card is due at the end of the billing period. Payment cards have several features that make them an attractive and popular choice with both consumers and merchants in online and offline transactions. For merchants, payment cards provide fraud protection. When a merchant accepts payment cards for online payment or for orders placed over the telephone - called card not present transactions because the merchant's location and the purchaser's location are different - the merchant can authenticate and authorize purchases using a payment card processing network. For U.S. consumers, payment cards are advantageous because the Consumer Credit Protection Act limits the cardholder's liability to $50 if the card is used fraudulently. Once the cardholder notifies the card's issuer of the card theft, the cardholder's liability ends. Frequently, the payment card's issuer waives the $50 consumer liability when a stolen card is used to purchase goods. Perhaps the greatest advantage of using payment cards is their worldwide acceptance. Payment cards can be used anywhere in the world, and the currency conversion, if needed, is handled by the card issuer. For online transactions, payment cards are particularly advantageous. When a consumer reaches the electronic checkout, he or she enters the payment card number and his or her shipping and billing information in the appropriate fields to complete the transaction. The consumer does not need any special hardware or software to complete the transaction.

III. MOBILE COMMERCE

Mobile commerce or m-commerce is defined as a process of buying and selling of goods or services through wireless technology. Most common representative in this category is of course mobile phone. Biggest benefit of m-commerce is, that terminal is portable and there is radio coverage in major cities. There is also increasing amount of services available in m-commerce sector. For example- Data or Information services, which cover automatic or manual delivery of sport news, weather information, stock market updates to a mobile device. Financial services, which covers paying bill or buying stocks, or even getting automatic warnings if money in the account is running low or predefined limit is exceeded.

IV. E-wallet

The electronic wallet (E-wallet) provides all of the functions of today's wallet on one convenient smart card eliminating the need for several cads. The E-Wallet will also provide numerous security features not available to regular wallet carriers. Identification is required for every credit card transaction and the card is equipped with a disabling device if the card should be tampered with. Electronic-Wallet is a digital wallet (also known as a E-wallet) which allows users to make electronic commerce transactions quickly and securely [2].

Electronic wallets being very useful for frequent online shoppers are commercially available for pocket, palm-sized, handheld, and desktop PCs. They offer a secure, convenient, and portable tool for online shopping. They store personal and financial information

such as credit cards, passwords, PINs, and much more. E-wallet is an electronic wallet for most important personal information (credit cards, calling cards, passwords, PINs, account numbers and more).So like a real wallet; E-wallet keeps information in cards. Several related pieces of information for example, a username, a password and a URL. Also to personalize cards with icons, colors, and on some platforms, pictures. To help keep cards organized, the cards created are stored in categories. Wallet files can have many different categories, and can be put in any kind of card in any category. In addition, categories can be nested as well, allowing placing categories within categories.

Different Wallets as per need can be created, and different information in each wallet can be stored. For example, a personal wallet file for our own cards and an office wallet file that we share with an assistant or other members of our team. We can place copies of the same cards in different files as appropriate. For example, we might want to place copies of the same cards in different files as appropriate. For example, we might want our business credit card listed in both of our wallet files for extra convenience. To facilitate the credit-card order process, many companies are introducing electronic wallet services. E-wallets allow us to keep track of our billing and shipping information so that it can be entered with one click at participating merchants' sites. E-wallets can also store echecks, ecash and our credit-card information for multiple cards. A popular example of an E-wallet on the market is Microsoft Wallet. To obtain Microsoft Wallet, one needs to set up a Microsoft Passport. After establishing a Passport, a Microsoft E-wallet can be established.

Then, E-wallets can be used for micro-payments. They also eliminate reentering personal information on the forms, resulting in higher speed and efficiency for online shoppers. Microsoft Passport consists of several services including, a single sign-in, wallet and kids passport services. A single sign-in service allows the customer to use a single name and password at a growing number of participating e-commerce sites. The shopper can use to make fast online purchases with a wallet service [3]. Kid's passport service helps to protect and control children's online privacy. We should protect our wallet file with a password. With a password protected wallet we must enter the wallet's password before we can see the information on any of the cards in that wallet. Anyone can open a wallet that does not use a password so we should set a password for any wallet that contains personal information.

A. *Starting with e-wallet*

When we start E-wallet for the first time, we are prompted to create a new wallet file to store our information in. When we're ready to add our own information, we can add new categories and cards to wallet and organize the information in a way that fits our needs.

B. *E-wallet security*

E-wallet protects your wallet information in two ways:

- By requiring a password before displaying any cards in a password protected wallet.
- By encrypting (making unintelligible) the information in cards in password protected wallets in our wallet file. This means that the information in

the file is translated into a secret code so that it can't be read by any other program.

C. Backup

For extra safety, we encourage to take backups of our E-wallet files (as well as all of our important information). The easiest way to do this is using the Automatic Backup feature available on Windows PC. On this platform, E-wallet will automatically make a backup of our wallet file each time we close E-wallet.

V. TECHNOLOGY IN E-WALLET

A digital wallet has both a software and information component. The software provides security and encryption for the personal information and for the actual transaction. Typically, digital wallets are stored on the client side and are easily self-maintained and fully compatible with most e-commerce web sites. A server-side digital wallet, also known as a thin wallet, is one that an organization creates for and maintains on its servers. Server-side digital wallets are gaining popularity among major retailers due to the security, efficiency, and added utility it provides to the end-user, which increases their enjoyment of their overall purchase. The information component is basically a database of user-inputted information. This information consists of shipping address, billing address, payment methods (including credit card numbers, expiry dates, and security numbers), and other information.

The key point to take from digital wallets is that they're composed of both digital wallet devices and digital wallet systems. There are dedicated digital wallet devices such as the biometric wallet by Dunhill, where

it's a physical device holding someone's cash and cards along with a Bluetooth mobile connection.

VI. BENEFITS OF E-WALLET

- Send and receive payments anywhere in the world.
- Unlimited transfers.
- Easy recurring payments and transfer.
- Manage our account from our mobile phone.
- World Ventures-branded prepaid MasterCard available.
- Security for our bank account and credit card numbers.
- Email or SMS notifications after transactions
- We are in complete control.
- Access our commissions faster.
- Pull money into our E-wallet from any bank account.
- Receive wired funds/transfers directly into our E-wallet.
- Any bank account worldwide.
- Transfer money from E-wallet to E-wallet without sharing personal account numbers
- Request paper commissions checks.

VII. ISSUES TO TAKE CARE OF FOR E-WALLET

Main issue that should be taken care of for electronic payments system is Authentication which identifies buyer and also makes sure that person is who he/she claims to be. Used methods are i.e. digital signature, finger prints, password or smartcards etc. Data integrity which means, that there must be a way to verify that data is not changed during the transactions. Confidentially must also be preserved.

VIII. SECURITY FOR ONLINE SYSTEMS

There are two main systems for transaction security, secure socket layer and secure electronic Transaction.

A. *Secure Socket Layer(SSL)*

SSL is the widely used secure service system and is an important measure to establish trust between online seller and buyer [4]. Encryption and decryption allow secure transfer of information between an Internet browser and server. Data cannot be intercepted or changed during transmission. SSL also permits merchant identification through SSL server certificates. The SSL standard has been widely adopted because it is relatively simple and easy to use and does not place excessive demands on the average consumer's home PC. SSL has an over 90% share of security measures, about the same as credit cards among online payment systems. Until recently, SSL provided services exclusively for fixed networks. But as mobile networks are increasingly important e-commerce markets, SSL services for wireless devices have been developed.

B. *Secure Electronic Transaction (SET)*

SET is an alternative, more complex security system based on digital certificates and signatures [5]. SET needs specific software and is more difficult for cardholders to obtain and use, and despite the high level of security offered it has not gained widespread use.

IX. REFERENCES

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