

Impact of E-Purse in Banking Sector

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Abstract

Technology is constantly improving and has limited shelf life. The longer it takes to procure and develop a solution – the less useful the end results. Therefore it makes it all the more important bet on technologies which have exhibited robustness, scalability, support and easier inter-operability. E-purse is a type of smart card with an embedded microchip, provides multiple options, such as debit card or credit card type payments. In the era of progress in the information technology E-Purse is a great boon to us. This paper examines the capability and suitability of using e-purse in the banking sector.

Key Words and Phrases : Central Bank (ECB) , Points of Sale (PoS), Personal Identification Number(PIN) , Central European Purse Scheme(CEPS)

1 Introduction

The recent developments across the globe in the payment systems arena, especially in e-commerce, have been marked by a gradual but steady trend towards electronic mode of payments as against the paper based payment instruments due to its convenience and ease of handling. European Central Bank (ECB) has broadly defined E-Money as an electronic store of monetary value on a technical device and used for making payments to undertakings other than the issuer without necessarily involving bank accounts in the transaction, but acting as a prepaid bearer instrument.



Fig 1a. Picture of E-purse



Fig1b. Wallet Service E-purse

E-Money products are generally classified into two categories, one as a *pre-paid stored value card* and second, as a *software based product*. The *prepaid stored value card* is also referred as *electronic purse* or *e-Purse* and software based product stored on the computer using internet based computer network is referred as digital cash or e-cash. The stored value card scheme typically uses a microprocessor chip with memory components well embedded in a plastic card usually a smart card. These cards can be used to the

extent of their pre-paid or stored value. Once the stored value is exhausted, e-Purse can be re-loaded with new or additional value.

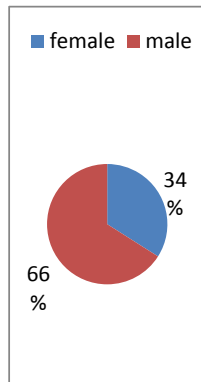


Fig 2. Uses of E-purse
(Gender Wise)

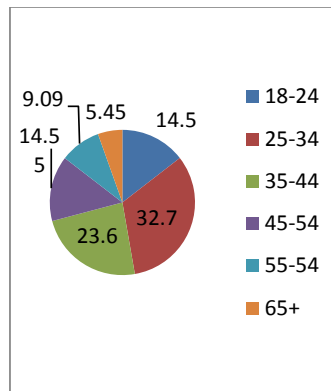


Fig 3. Uses of E-purse
(Age Wise)

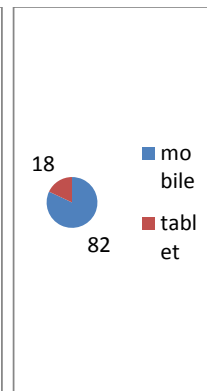


Fig 4. Uses of E-purse
(Device Wise)

2 E-Purse Advantages

- Convenient mode of carrying money because it is expected to substitute coins and currency notes and hence used for paying online utility bills.
- Preservation of resources in terms of manpower, money, time, less printing and minting of notes and coins respectively.
- It is important to note that the issuer and the service provider (acceptor) has the identical value for the cards in single-purpose E-Purse card.

3Types of E-Purse

A.Single-Purpose E-Purse Card

The single-purpose card is designed to function for only one type of transaction, e.g., public transport, telephone services,

educational institutions, hospitals, telephone calls, laundry or any specific utility service. The card generally comes with a magnetic chip which stores the information about the amount loaded or funded. European Central Bank (ECB) has exempted these Single-purpose pre-paid cards from the purview of their policy initiatives on e-money. It is important to note that the issuer and the service provider (acceptor) has the identical value for the cards in single-purpose E-purse card.

B. Closed or Limited Purpose e-Purse Card

The scope of the closed E-Purse is limited in nature as it is not treated like money and hence cannot be used everywhere. A select number of vendors or service providers only accept the e-Purse. The closed e-Purses have one issuer or type of value and are generally used in a small number of already selected or identified points of sale (PoS) locations. The mass transit systems of New York, San Francisco, and Washington all use prepaid cards.

C. Open or Multi-Purpose E-Purse Card

The scope of the open e-Purse is wider. The value stored in the open. E-Purse may be equated to currency as it can be used for a wider range of transactions. It may perform variety of functions in association with multiple vendors, like, debit card, smart card etc.

4 Salient Features of E-Purse

- E-Purse stores pre-paid monetary value in the form of electronic money and are used to purchase or pay for goods or services in particular smart card schemes.

- Value can be loaded into e-Purse either by paying cash or by earning points, depending on the scheme.
- E-Purses can be loaded by bank transfers. E-Purse can also be loaded by Banks, ATMs, Cash / Coin Dispensers, etc., by which the value of the inserted cash is transferred into the inserted smart card.

5 E-Purse Implementation

Global and Indian Scenario

E-Purse schemes across the globe are at different level of development and implementation. In Europe, one of the most successful e-Purse schemes is the Proton purse, which is widely deployed in Belgium and Holland. The Geldkarte Purse has been widely deployed in Germany in co-operation agreements with some French schemes, but the usage is not to the expected level. Italy, Spain and Portugal all have their own schemes, though not widely used. These schemes generally interoperability problem. In view of this, Common European Purse Scheme (CEPS) was launched to bring them together to establish a common European standard for electronic purses. The major card associations and their suppliers have developed the technology that is based on the European Central Bank proposals for an accounted E-Purse, with the card-based technology derived from CEN EN 1546 standard. In United States, the e-Purse schemes have taken off slowly due to the popularity of other e-payment mechanism supported by advanced communication infrastructure. In USA, e-Purse schemes have been generally introduced in the transportation, government and education field.

Some popular E-Purse schemes are Visa Cash and Mondex. Other scheme is the Electronic Benefit Transfer Programme with higher volume and value.

Mcard of University of Michigan was one of the largest deployments of E-Purse,

however it did not take off. UCF card of University of Central Florida is also in use. The US Department of the Treasury for the US armed forces administers Navy Cash Card and the Eagle Cash Card.

In Asia, Singapore and Malaysia are the leaders in smart card implementation. Malaysia has been successfully implemented as the world's first country to launch a national multi-application smart ID card for citizens. Thailand has also embarked upon the implementation of national-id smart card with the use of biometric technology.

6 Issues Involved in E-Purse

A.Impact on Central Bank's Monetary Policy

The E-Purse applications generally being small in value across the globe with an added restrictions of maximum capped money which can be stored on the card, no Central Bank has reported adversely against its impact on the size of the balance sheet due to likely decline in the value of the currency in circulation because of widespread adoption of E-Purse. The issues also include the computation of unspent balance on the cards, computation of loyalty points on the cards, payment of interest on the loaded amount on the card, etc., a few Central Banks of countries like, Germany, Belgium, Hon Kong, Singapore, UK, etc.

B. Supervisory and Oversight Issues

Most Central Banks having a supervisory and oversight rights perform functions like collection of data, having inter-action with the issuers of E-Purse, study of the organizational, legal, administrative technical and security features of the product and the operator. In countries like, Australia, Austria, Finland, Sweden and UK the supervisory role is executed by other bodies and in countries like, Korea, Mexico and Switzerland, specific regulations on the issuance of e-money have not yet been framed.

C. Legal Issues

Two EU Directives, the European Parliament and Council Directive 2000 / 46 / EC on the taking-up, pursuit of and prudential supervision of the business of electronic money institutions and the European Parliament and Council Directive 2000 / 28 / EC amending Directive 2000 / 12 / EC relating to the taking-up and pursuit of the business of credit institutions provide for a comprehensive and harmonized regulatory framework for the issuance of e-money by traditional credit institutions and a new class of credit institutions called electronic money institutions (ELMIs) with the Euro system. .

D. Security Issues

Another important concern is related to the security of the entire E-Purse scheme. In case of any security breach, the users, issuers or the banks may suffer loss. Generally, the secured cards come with built-in security features such as encryption, prescriptions of maximum monetary limits, tamper resistant, etc.

E. Cross-border issues

In the multiple currencies, E-Purse and the unified currency across diverse nations scenario like euro and the creation of the EU passport under the EU Directive raises the cases of cross-border interoperability of e-money. In the euro area, two projects namely, PACE (Purse Application for Cross-border Use in euro) and Ducato (schemes in Belgium, France, the Netherlands and Spain) have been launched.

F. Issue of Technology Standardization

The other issues include the adoption of common technological standards on a nationwide basis to achieve the goal of standardization and building up a common technical infrastructure such as card readers and terminals consistent operation.

Conclusion

Corporation Bank has introduced a wallet service – “e-Purse” just for you. It facilitate a host of mobile based payments enabling Individuals to pay and Merchant to receive. Now, CORP e-Purse Wallet is offering an exciting offer for RuPay card users. You can get Rs 25 Cash back on Loading Rs 250 in the Wallet using RuPay Debit card. Recently e-purse technology is spreading vastly throughout the India. Corporation Bank Mangaluru released ‘Corp e-Purse’, an wallet service, for its customers using smart phones on the occasion of Banks’s 111th Foundation Day Celebration. on 12th march 2016. Bank .Bank managing director and chief executive officer Jai Kumar Garg released the purse in the presence of executive director Sunil Mehta and director Adish Kumar Jain. The released said that the purse had secure and real time payments processing capacity and facilitates a host of mobile based payments

for both to individuals and merchants. Taipei, Aug. 25 (CNA) The Ministry of the Interior (MOI) is planning to integrate the chip-embedded national identification card and Citizen Digital Certificate, and equip the resulting card with an electronic purse to facilitate usage, Interior Minister Chen Wei-zen (陳威仁) said .The integrated ID-citizen certificate card, being developed with an investment of NT\$8.1 billion (US\$248 million) is scheduled to begin circulating in 2017, Chen said. The new card will also be designed to be used as an e-purse, but that function will be optional, he added.

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