Issues and Security of Plastic Currency

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Abstract

The Issues and Security concerns in the use of Plastic Money is main theme of this project. The project covers different aspects of the Plastic Money, analyzing its history, its types, and issues in its usage. One of the important propositions of this project is the impact of Plastic Money usage on the Global Economic Environment. In one phase of this research work, we explore the feasibility issues of Plastic Money and its future in Pakistan. In the next phase, we deal with the issues of Security and Fraud concerns in Credit and Debit Cards and how might they be counterfeited. In the end an account of measures, which the State Bank of Pakistan has taken to minimize the risk of frauds in Plastic Currency usage, has been taken up for analytical evaluation.

Introduction

As the economy and the international boundaries is now getting more and more tangible and resultantly are creating a freeway for an open economic system, which shall work on the age old primitive logic of survival of the fittest to survive on this fierce competition. For this every one has to be on their heels and obtain the maximum efficiency from every other thing possible. Consequently, this policy ensures least possible overheads and improves the overall efficiency and profit margin of any organization.

Plastic money is much more convenient to carry around as you do not have to carry a huge sum of money with you. It is also much safer to carry it along or to travel with it. If it is stolen, one can consult the bank whose service you are using and get it blocked hence saving your money from getting stolen or even lost.

Plastic money is the generic term for all types of bank cards, credit cards, debit cards, smart cards, etc. They are the alternative to the cash or the standard 'money'. Plastic money is used to refer to the credit cards or the debit cards that we use to make purchases in our everyday life.

Fig 1: First Plastic Card (American Express)

Fig 2: Multi Purpose Card

Evolution of Credit Card Processing

Visa and MasterCard developed rules and standardized procedures for handling the bank card paper flow in order to reduce fraud and misuse of cards. The two associations also created international processing systems to handle the exchange of money and information and established an arbitration procedure to settle disputes between members.

Today's consumers have moved away from using cards only for big ticket purchases such as travel and entertainment. They are now shifting daily expenditure such as groceries and other types of household spending from cash to electronic payments. A study by Visa International and National Council of Applied Economic Research (NCAER) reveals segments such as handicrafts (56%), consumer durables (54%), telecom (53%), departmental stores (52%), petrol (52%), jewellery (49%) and supermarkets (49%) have shown highest year on year growth in card usage.

However, 80% of card volumes from ATM cash withdrawals, predominantly with debit cards which are still largely used for cash withdrawals at ATMs. This is a natural consequence of an astronomical growth in ATMs to 14,000 installations across the country by December 2004, against 1,100 ATMs in select pockets of metros, three years ago. Electronic payments can help reduce the size of the informal economy. When cash remains outside the banking system, the possibilities of supplying productive capital to the economy are diminished. Bringing cash into the banking system produces an equal increase in bank reserves, enabling banks to facilitate more consumer and commercial loans, thereby stimulating business growth and consumption.

Adoption of polymer banknotes

As of 2009, at least seven countries have converted fully to polymer banknotes: Australia, Bermuda, Brunei, New Zealand, Papua New Guinea, Romania and Vietnam. Other countries and regions with notes printed on Guardian polymer in circulation include: Bangladesh, Brazil, Canada, Chile, Dominican Republic, Hong Kong (for a 2-year trial), Indonesia, Israel, Malaysia, Mexico, Nepal, Solomon Islands (no longer issued), Sri Lanka, Thailand, Samoa, Singapore and Zambia. Countries and regions that have issued commemorative banknotes (which are not in circulation) on Guardian polymer include: China, Taiwan, Kuwait, Northern Ireland and Singapore.

Fig: 3 Polymer notes of different countries

Type of Plastic Cards

The various Plastic cards include ATM cards, Debit Card, TM cum Debit Card, Credit Cards, Smart Card, Charge Cards, Co-branded cards, add on cards and so on. The different types of payment cards are:

1) Credit cards
2) Debit cards
3) Charge cards
4) Pre-paid cards

Using Credit Cards Wisely

A credit card can be an asset to your lifestyle, but if not handled carefully it can become a liability, especially if you find it so convenient and easy to use that you lose control of your spending.

Advantages

A credit card can:

1. Offer free use of funds, provided you always pay your balance in full, on time.
2. Be more convenient to carry than cash.
3. Help you establish a good credit history.
4. Provide a convenient payment method for purchases made on the Internet and over the telephone.
5. Give you incentives, such as reward points, that you can redeem.

Disadvantages

On the other hand, credit cards can:

1. Cost much more than other forms of credit, such as a line of credit or a personal loan, if you don't pay on time.
2. Damage your credit rating if your payments are late.
3. Allow you to build up more debt than you can handle.

Plastic Currency Notes

- For a common man, soiled notes of rupee one, two, five and ten are an every day nuisance. Due to rising costs of day to day commodities like vegetables and fruits which can not be purchased from small venders by using a credit/debit card, even fifty rupee notes are getting soiled very soon. A lot of money is thus lost due to badly mutilated, torn notes, which even some banks refuse to exchange.
- In addition these soiled notes carry bacteria and germs that can cause diseases like TB, pneumonia, peptic ulcers and gastroenteritis. Due to our dirty habit of using saliva to wet our fingers while counting a wad of notes, these germs enter our mouth and make some of us ill if they have a poor immunity.

- Plastic currency if handled carefully and correctly may offer a durable alternative. They are Eco-friendly because no one is going to throw plastic currency notes into garbage for cows to swallow and recyclers to make cheap pots and shoes out of them.
- As a birthday gift to the nation, in the year of Australian bicentennial (1988), the Government of Australia introduced ten dollar plastic currency notes for the first time in the whole world. It took them more than 20 years to bring out plastic currency notes.
- Earlier many other small countries like Haiti, Costa Rica and the Isle of Man had experimented with plastic currency notes using Tyrek; a paper like material made of high-density polyethylene or polythene - the common plastic used in making carry bags. However, the experiments failed as the printing began to flake off very soon.

Plastic Money in Pakistan

Plastic Money business is definitely going big time here in Pakistan. In a country where two years back people have hardly heard the word plastic money or credit card, more than 7000 merchants are accepting above 140,000 cards. It has been estimated that there are likely to be around half million potential card users in the near future. This forecasting derives credibility from the fact that more and more local and international financial institutions are exhibiting enthusiasm in this direction. This in turn reflects prospects in Pakistan market in accommodating numerous credit card competitors operating on the circuit, ensuring healthy and competitive card business deals.

Market Scenario

Although credit card was introduced in Pakistan decades ago when Habib Bank, the largest bank in Pakistan, launched its gold card, but people had hardly known about this card because of its very limited issuance. Approximately four years back, Allied Bank of Pakistan had launched its Master Card. Two years back Citibank had launched its VISA Card and that was the turning point in the history of Plastic Money in Pakistan.

After successful launch of Citibank card, Muslim Commercial Bank, Bank of America, and National Bank of Pakistan had launched their credit cards. Very soon we are expecting more local and international banks on the horizon of Pakistan's credit card business.

Table 1: Bank and Card

Allied Bank of Pakistan	Master Card
American Express	AMEX Card
Bank Of America Visa Card	Master Card
| Citibank N.A.	Visa Card
Diners Club International	Diners Club Card
| Habib Bank Ltd.	Habib Bank Card
Habib Metropolitan Bank	HMB Access
| Muslim Commercial Bank	Master Card
| National Bank of Pakistan	Visa Card -- Master Card

*In alphabetical order

Table 2: ATM Transactions

S. No	Bank	Debit
1	Allied Bank	980,76
2	Arif Habib Bank	567
3	Al Barka Islamic	987
4	Bank Al Falah Limited	654
5	Bank Al-Habib Limited	234,435

6	Barclays Bank Ltd	357,67
7	Bank Islami Pakistan	876,54
8	BankOfKhyber	564,98
9	Bank Of Punjab	125
10	Dubai Islamic	38
11	Faysal Bank	754
12	Habib Bank Ltd	234,098
13	JS Bank	435,6
14	Kasb Bank	543
15	Habib Metropolitan	125,67
16	My Bank	43
17	National Bank	678,54
18	Soneri Bank	327

Security Issues in Plastic Money

The global payments industry has implemented a wide variety of techniques to combat card-based fraud. Outside of the United States, the payments industry has moved or is moving to EMV technology to combat increasing fraud rates. The U.S. has historically addressed fraud in a different manner, relying on magnetic stripe cards and online authorizations as well as other online techniques to detect and react to fraud. The U.S., however, is now issuing contact less payment cards based on smart chip technology that secure transactions by generating a unique dynamic cryptogram (an encrypted code) with each transaction.

Conclusion

Fraud is a growing and ever-changing problem for the payments industry. As new payment technologies are introduced and new fraud prevention and detection techniques are implemented, criminals look for the new weakest point in the system to exploit. The industry has implemented a variety of both preventative and mitigating measures to deal with card fraud. While the networks that carry those data elements have changed from dial-up to IP communications to wireless, but unfortunately the data hasn't. The solution is to incorporate dynamic data into payment transactions, so that stolen account or transaction information is rendered useless.

Use of dynamic data, plus other existing fraud detection techniques, provides an effective solution to card-based fraud without any changes to the current infrastructure. Every additional contact less transaction reduces the possibility of fraud.

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