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A Comparative Study of Financial Transaction Cards - Credit & Debit Cards

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ABSTRACT

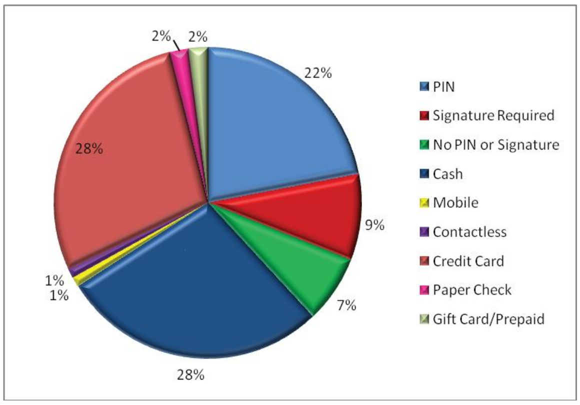
In today's world the use of debit and credit card have become so widespread that their volume has overtaken or entirely replaced cheques and, in some instances, cash transactions. Since the transactions are cashless and are performed on-line, it becomes the most popular mode of payment. Increase in e-commerce and the ease of online transactions and payments has led to an exponential increase in the number of people opting for online purchases. This has automatically led to an increase in the number of fraudsters trying to exploit the transparence involved in online transactions. This article defines the most common things of debit card and credit card transactions and compares both credit and debit card nature.
Keywords : Debit Card, Credit Card, Cashless, E-Commerce, Fraudsters.

I. INTRODUCTION

A little over fifty years past, banks introduced credit cards. The utility of those early credit cards was restricted as a payment card and would only work if both the merchant and consumer used the same bank. to handle this issue, major banks formed franchises in order that one bank's card might be accepted at another bank's merchant. These franchises became referred to as "associations." Today, Visa® and MasterCard® are the largest card associations and their product offers have expanded beyond credit cards. Card associations play a crucial role in establishing the principles that govern use of payment cards by customers and businesses. to guard the security and integrity of the card-based payment system, all payment cards should be issued or secured by a financial institution, and every merchant should be sponsored into the association by a financial organization.

Debit-card was introduced in the 1980's in the sort of automated teller Machine (ATM) cards that provided customers with 24-hour access to cash in their bank, checking, and savings accounts. A Debit-card is a payment card that appears like a credit card however it's linked to the card owner's deposit account at a bank. once the card is used, it accesses funds the card owner has in his or her bank account. a personal number (PIN) is related to every debit card to guard against fraudster. to extend convenience for customers, banks formed networks and allowed their customers to use ATMs owned by any bank within the network. A network emblem was added to the card for customers to simply identify the ATMs that were in the network. to increase the worth of their ATM cards, networks encouraged merchants to install PIN-pads at their money registers therefore customers may create purchases with ATM cards. Over time, ATM cards came to be referred to as "debit cards." Debit currently ranks as consumers' favourite way to pay, with thirty eighth saying they prefer the strategy for in-store transactions, followed by money and credit cards at twenty eighth. Debit remains most well-liked in its traditional venues: grocery stores, drug stores, and discount stores, however it's additionally a popular selection at malls, gas/convenience stores and restaurants.

In fact, debit cards became so fashionable they have begun to overtake credit in the us in terms of dollar volume. For instance, Visa debit cards generated $1.09 billion in volume in the fourth quarter 2008, compared with $952 million for the network's credit cards, according to a mercator study. This dovetails with the primary year-over-year decline on record of client revolving credit, that fell to $931 billion in 2009, down from $963 billion in 2008. Time can tell if this is because of the recent recession or a symbol of a more permanent trend.



Source: Hitachi Consulting and BAI. "2010 Study of Consumer Payment Preferences," September 2010.

In the 1990's, Visa and MasterCard launched their own version of debit cards that didn't need use of a PIN for purchases. Instead, the buyer signed the rear of the debit card and this signature might be matched with the consumer's signature on the receipt to validate the cardholder. Today, most debit cards operate in each modes, carrying one or additional network brands and an association brand, permitting purchases to be authorized either with a PIN or the cardholder's signature. Originally, debit cards were connected to 1 or additional bank accounts owned by the cardholder. around the year 2000, a brand new form of debit card referred to as a "prepaid debit card" was launched. The funds on prepaid cards were still kept at a bank, however in a pooled account where the balance was held in trust for cardholders. Behind the scenes, balances on every card were tracked in real time in order that any one cardholder only had access to the funds in the trust account related to his or her prepaid debit card.

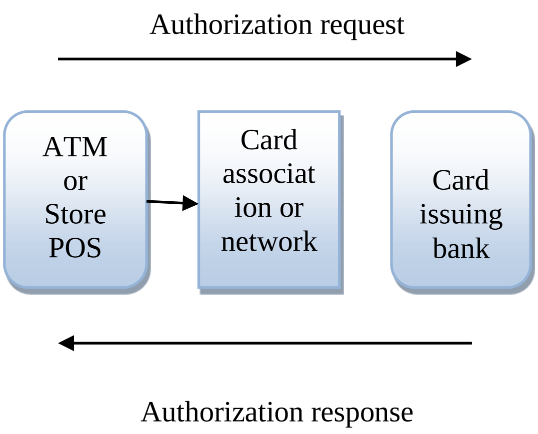
II. WHAT ARE DEBIT AND CREDIT CARDS?

A debit card is always tied to a checking account, in order that they also are generally called "checking cards." Any time you use a debit card to shop for one thing, cash is subtracted from your account sometimes on the same day, if not immediately. as an example, if you have $1,000 in an account and spend $30 using a debit card, $30 is removed from the bank account, leaving behind $970. With a debit card, you'll really only spend the cash you have available to you. If you only have $970 left, spending than that will lead to an overdraft charge. When you use a debit card for associate in-person (not online) dealings, you need to use your personal identification number, or PIN, to approve the transaction. once you use a debit card for a credit card-like transaction, you may commonly need to sign a receipt (in the U.S.). However, signature requirements are being phased out in favour of PINs, therefore soon there'll be no difference between the experience of using a debit card for a debit or credit transaction. It is simple to use for a debit card. Any bank or credit union that you simply have a bank account with will issue you a debit card upon request.

Unlike debit cards, credit cards are not connected to a checking account. Instead, they're tied to a financial organisation, like a bank or credit company, that's in the business of issuing revolving lines of credit to shoppers. Whereas a debit card transaction is especially between the customer and merchant, a credit card transaction specifically involves a 3rd party: the institution who has loaned cash to the customer. For example, if you use your credit card to shop for $30 of groceries, you're not directly paying the grocery store. Instead, the grocery store is paid $30 by the credit issuer. This is $30 that you currently owe the credit card issuer. With a credit card, you're ne'er restricted by the number of cash you have in your bank account, which might be one of the major cons to debit cards for several shoppers. Instead, you're restricted by whatever the credit limit on the card is. If you're new to the globe of credit, a credit card company could only issue you a card with a $1,000 credit limit. This implies you only have $1,000 of revolving credit to use. Some card issuers increase credit limits over time for those who build up an honest credit history by paying off their credit card every month (i.e., group action their loan). It is comparatively harder to get creditcard than it's to get debitcard, particularly for those with no credit history or a poor credit history. once you apply for a credit card, the issuer evaluates your creditworthiness to see how risky it's to loan you cash. If the issuing company believes you're a poor credit risk, your application for a credit card will be rejected.

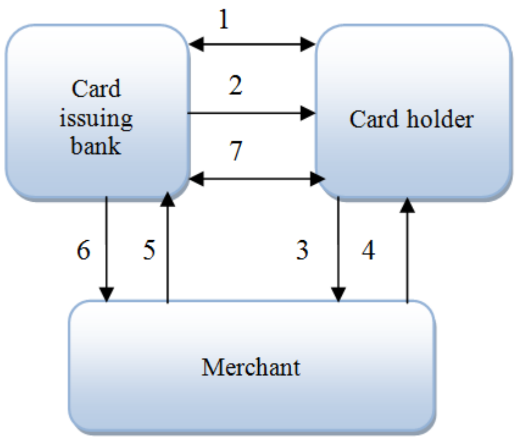
III. HOW DEBIT CARD WORKS

When a consumer uses a debit card to get cash from an ATM or make a purchase, the ATM or merchant Point of Sale system sends an electronic request to the association or network linked to the card. The association passes the authorization request to the bank that provided the debitcard to the customer. The bank validates that the card has not expired or been reported lost or stolen and that there are sufficient funds available to cover the amount of the transaction. If a PIN is entered for identification, the PIN is also validated. The bank then sends the approval or denial transaction back to the association or network, who delivers it to the A.T.M. or Point of Sale where the customer presented the card. (See Figure below.) Fig below



All of this happens nearly instantaneously – sometimes in less than one second of your time. And, throughout the authorization method transactions are monitored to appear for patterns of fraud. The newer debitcard process platforms related to prepaid debitcards were designed to handle a lot of complicated authorization procedures. this might include limiting use of the card to certain classes of merchants or particular merchant locations. It may also include limiting use of categories to buy of particular products or services if the merchant is ready to send data concerning the things being purchased. prepaid debit cards also can have multiple “purses” related to one card. for example, a prepaid debit card may have a general spending purse and a savings purse.

IV. HOW CREDIT CARD WORKS



1. Contract for credit card
2. Issue of Credit card
3. Purchasing goods
4. Delivering goods
5. Raising of bill
6. Payment for bills
7. Payment of Credit card

The credit card operation consists of the steps as follows:

1. Contract for credit card: there's a contract between cardholder and therefore the cared issuing bank concerning limit etc.
2. Card issue: Once the contract is finished, the bank problems the credit card to their client.
3. buying goods: A Cardholder purchases goods/services and offers the credit card.
4. Deliver goods: A merchant establishment delivers goods once taking a legitimate credit card and noting the number and taking signatures on certain forms.
5. Raising of bill: The merchandiser institution raises the bill for the purchase and sends it to the credit card issuing bank for payment.
6. Payment for bill: The issuing bank pays the amount to the merchandiser institution.
7. Payment of Credit card: The provision bank raises bill on the credit cardholder and sends it for payment. The credit cardholder then pay the amount to the issuing bank.

I. COMPARISON OF CREDIT CARD (CC) AND DEBIT CARD (DC):

1. About:

Cc: Credit cards are lines of credit after you use a credit card, the issuer puts cash toward the transaction. This can be a loan you're expected to pay back fully (usually within thirty days), unless you wish to be charged interest.
Dc: Any time you use a debit card to shop for one thing, cash is subtracted from your account. With a debit card, you can really only spend the cash you have available to you.

2. Connected to

Cc: Not needed to be connected to a bank account.
Dc: Checking or savings account

3. Monthly bills

Cc : yes Dc: no

4. Application process

Cc: Somewhat troublesome, depending on one's credit score and other details.
Dc: Easy, with primarily no barrier to receiving a debit card.

5. Spending Limit

Cc: The credit limit set by the credit issuer. Limits increase or keep the same over time as a borrower's creditworthiness changes.
Dc: how much is in the bank account connected to the card.

6. Interest Charged

Cc: If a credit card bill isn't paid fully, interest is charged on outstanding balance. The interest rate is sometimes terribly high.
Dc: No interest is charged because no cash is borrowed.

7. Security

Cc: Credit cards within the U.S. don't seem to be very secure in and of themselves because several still use dated card security technology. However, customers are not held liable for this poor security.
Dc: A PIN makes them secure so long as nobody steals the card number and PIN, and as long as you do not lose the card itself. If the card/info is stolen, debit cards are terribly insecure.

8. Fraud Liability

Cc: Low. rarely held liable for dishonest activity. If you are, you're only control liable for a most of $50.
Dc: High. If somebody steals your card and makes purchases, that money is removed from your checking account. investigation this damage takes time. The longer you wait to report the fraud, the more probably you'll be held liable for your own losses.

9. Credit History

Cc: responsible credit card usage and payment will improve one's credit rating. Credit cards usually report account activity to at least one in all the 3 major credit bureaus on a monthly basis.
Dc: doesn't affect credit history.

10. Overdraw Fees

Cc: Low. Some credit card companies enable to overdraw amount over the maximum credit line with a fee.
Dc: High "overdraft" fees. possible to overdraw amount over the account limit.

11. PIN

Cc: within the U.S., this can be uncommon, however PINs are being phased in.
Dc: usually

II. CONCLUSION

This paper presents the basic things of debit card and credit card transactions and compares both the card nature. As the next step in this research program, the focus will be upon the implementation of a ‘suspicious’ scorecard on a real data-set and its evaluation. The main tasks will be to build scoring models to predict fraudulent behaviour, taking into account the fields of behaviour that relate to the different types of credit and debit card frauds. The good news is that technology for preventing card frauds is also increasing in recent times & reducing cost of computing helps in introducing complex systems.

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