

Electronic purse card system

Smart card based electronic purse systems (in which value is stored on the card chip, not in an externally recorded account, so that machines accepting the card need no network connectivity) are in use throughout Europe since the mid-1990s, most notably in Germany (Geldkarte), Austria (Quick Wertkarte), the Netherlands (Chipknip), Belgium (Proton), Switzerland (CASH) and France (Moneo, which is usually carried by a debit card). In Austria and Germany, all current bank cards now include electronic purses.

Prepaid debit cards

Prepaid debit cards, also called reloadable debit cards, appeal to a variety of users. The primary market for prepaid cards are unbanked people, that is, people who do not use banks or credit unions for their financial transactions, possibly because of poor credit ratings.

The advantages of prepaid debit cards include being safer than carrying cash, worldwide functionality due to Visa and MasterCard merchant acceptance, not having to worry about paying a credit card bill or going into debt, the opportunity for anyone over the age of 18 to apply and be accepted without regard to credit quality and the option to direct deposit paychecks and government benefits onto the card for free.

Consumer Protection

Consumer protections vary, depending on the network used. Visa and MasterCard, for instance, prohibit minimum and maximum purchase sizes, surcharges and arbitrary security procedures on the part of merchants. Merchants are usually charged higher transaction fees for credit transactions, since debit network transactions are less likely to be fraudulent. This may lead them to "steer" customers to debit transactions. Consumers disputing charges may find it easier to do so with a credit card, since the money will not immediately leave their control. Fraudulent charges on a debit card can also cause problems with a checking account because the money is withdrawn immediately and may thus result in an overdraft or bounced checks. In some cases debit card issuing banks will promptly refund any disputed charges until the matter can be settled and in some jurisdictions the consumer liability for unauthorized charges is the same for both debit and credit cards.

In some countries, like India and Sweden, the consumer protection is the same regardless of the network used. Some banks set minimum and maximum purchase sizes, mostly for online only cards. However, this has nothing to do with the card networks, but rather with the bank's judgment of the person's age and credit records. Any fees that the customers have to pay to the bank are the same regardless of whether the transaction is conducted as a credit or as a debit transaction, so there is no advantage for the customers to choose one transaction mode over another. Shops may add surcharges to the price of the goods or services in accordance with laws allowing them to do so. Banks consider the purchases as having been made at the moment when the card was swiped, regardless of when the purchase settlement was made. Regardless of which transaction type was used, the purchase may result in an overdraft because the money is considered to have left the account at the moment of the card swiping.

Stored-value card

A **stored-value card** refers to monetary value on a card not in an externally recorded account and differs from prepaid cards where money is on deposit with the issuer similar to a debit card. One major difference between stored value cards and prepaid debit cards is that prepaid debit cards are usually issued in the name of individual account holders, while stored value cards are usually anonymous.

The term stored-value card means the funds and or data are metaphorically 'physically' stored on the card, in the form of binary-coded data. With prepaid cards the data is maintained on computers affiliated with the card issuer. The value associated with the card can be accessed using a magnetic stripe embedded in the card, on which the card number is encoded; using radio-frequency identification (RFID); or by entering a code number, printed on the card, into a telephone or other numeric keypad.

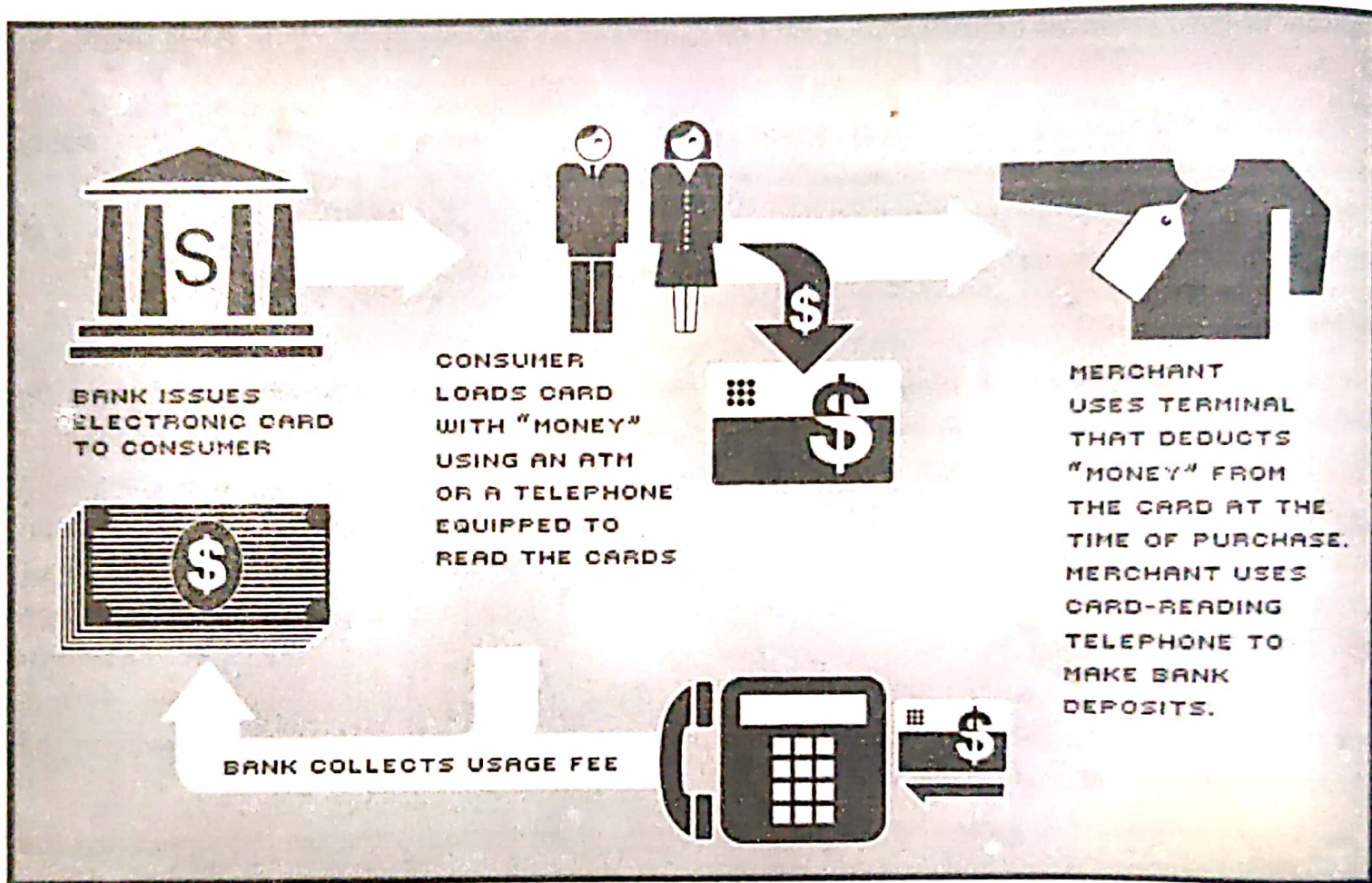


Fig. 18. A Stored Value Card

Why use a stored value card?

The Financial Management Service has developed a number of SVC applications designed to improve financial controls and cash management applications, streamline administrative processes and improve the quality of life of cardholders. Stored value cards are low-cost, easy to issue and easy to use. They have been used to:

- Simplify administrative processes for issuing financial instruments to individuals
- Convert cash and paper transactions to electronic
- Eliminate the cost of securing, transporting and accounting for cash
- Speed transaction time at point of sale

Electronic Cash

Electronic cash is the debit card system of the German Banking Industry Committee, the association which represents the top German financial interest groups. Usually paired with a checking account, cards with an Electronic Cash logo are only handed out by proper credit institutions. An electronic card payment is generally made by the card owner entering their PIN (Personal Identification Number) at a so called EFT-POS-terminal (Electronic-Funds-Transfer-Terminal). The name "EC" originally comes from the unified European checking system Eurocheque. Comparable debit card systems are Maestro and Visa Electron. Banks and credit institutions who issue these cards often pair EC debit cards with Maestro functionality. These combined cards, recognizable by an additional Maestro logo, are referred to as "EC/Maestro cards".

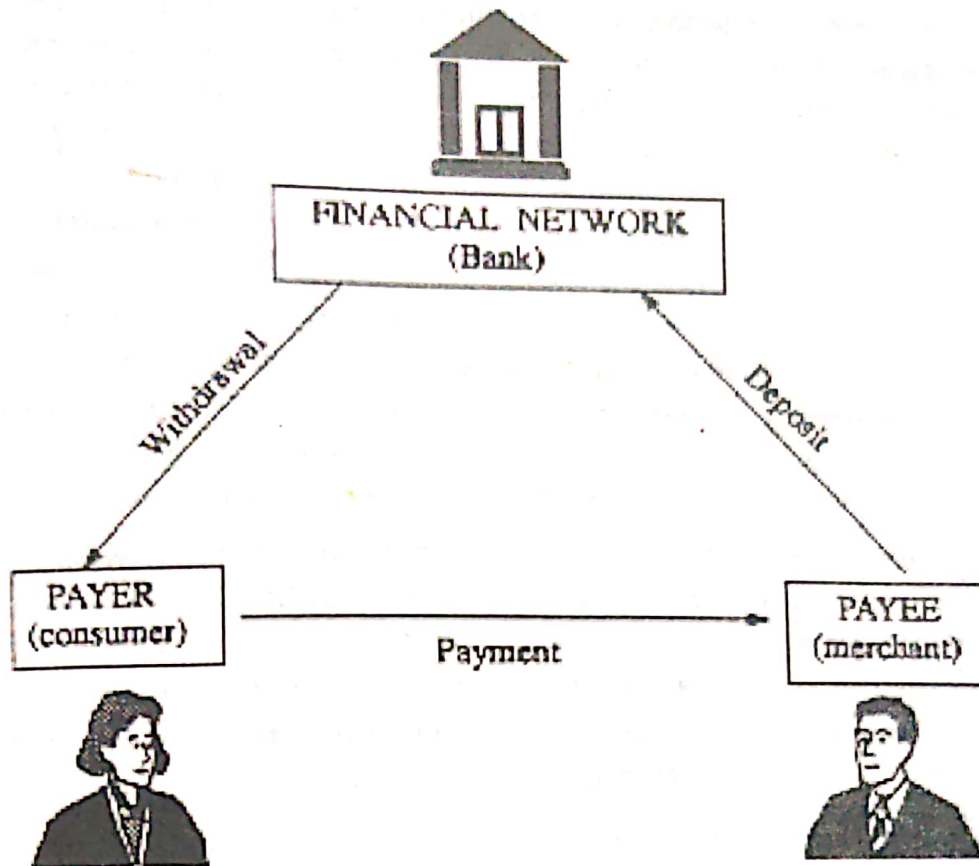


Fig. 20. The three types of transactions in a basic electronic cash model

How it is used

E-cash is used over the Internet, email, or personal computer to other workstations in the form of secured payments of "cash" that is virtually untraceable to the user. It is backed by real currency from real banks.

The way e-cash works is similar to that of electronic fund transfers done between banks. The user first must have an e-cash software program and an e-cash bank account from which ecash can be withdrawn or deposited. The user withdraws the e-cash from the account onto her computer and spends it in the Internet without being traced or having personal information available to other parties that are involved in the process. The recipients of the e-cash send the money to their bank account as with depositing "real" cash.

Other than making purchases on the Internet, e-cash can also be found used in entertainment sites on "gambling tables" in Internet casinos such as PAF Casino and Internet Casino. Ecash allows the exchange of money to be conducted in the same way as in real casinos.

Relevance to Business and Electronic Commerce

Even though there are more than 25,000 companies conducting business on the Internet, consumers are still not that confident with having transaction done over the Internet. This is mostly due to a lack of a readily available and secure payment system. With credit cards, consumers are concerned with the security of their information and thus deterring them from directly making purchases from the Internet. With e-cash, hopefully consumers will be more comfortable with transactions over the Internet as it is a one-time transaction that cannot be traced back to the user, whereas with credit cards, hackers can obtain information of the card holder and commit frauds.