Unit- 3 Electronic payment System:

VIJYA TULSANI

Introduction

- E-commerce sites use electronic payment, where electronic payment refers to paperless monetary transactions.
- Electronic payment has revolutionized the business processing by reducing the paperwork, transaction costs, and labor cost.
- Being user friendly and less time-consuming than manual processing, it helps business organization to expand its market reach/expansion.
- Listed below are some of the modes of electronic payments −

-Credit Card

-Debit Card

-Smart Card

-E-Money

-Electronic Fund Transfer (EFT)

- **Credit Card**

- Payment using credit card is one of most common mode of electronic payment.
- Credit card is small plastic card with a unique number attached with an account.
- It has also a magnetic strip embedded in it which is used to read credit card via card readers.
- When a customer purchases a product via credit card, credit card issuer bank pays on behalf of the customer and customer has a certain time period after which he/she can pay the credit card bill.

- It is usually credit card monthly payment cycle. Following are the actors in the credit card system.

  -The card holder – Customer

- **The merchant** – seller of product who can accept credit card payments.

  -The card issuer bank – card holder's bank

  -The acquirer bank – the merchant's bank

  -The card brand – for example , visa or Mastercard.

- Credit Card Payment Process

Step	Description
Step 1	Bank issues and activates a credit card to the customer on his/her request.
Step 2	The customer presents the credit card information to the merchant site or to the merchant from whom he/she wants to purchase a product/service.
Step 3	Merchant validates the customer's identity by asking for approval from the card brand company.
Step 4	Card brand company authenticates the credit card and pays the transaction by credit. Merchant keeps the sales slip.
Step 5	Merchant submits the sales slip to acquirer banks and gets the service charges paid to him/her.
Step 6	Acquirer bank requests the card brand company to clear the credit amount and gets the payment.

- **Debit Card**

- Debit card, like credit card, is a small plastic card with a unique number mapped with the bank account number.
- It is required to have a bank account before getting a debit card from the bank.
- The major difference between a debit card and a credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed; whereas in case of a credit card transaction, there is no such compulsion.

- Debit cards free the customer to carry cash and cheques. - Even merchants accept a debit card readily.
- Having a restriction on the amount that can be withdrawn in a day using a debit card helps the customer to keep a check on his/her spending.

- **Smart Card**

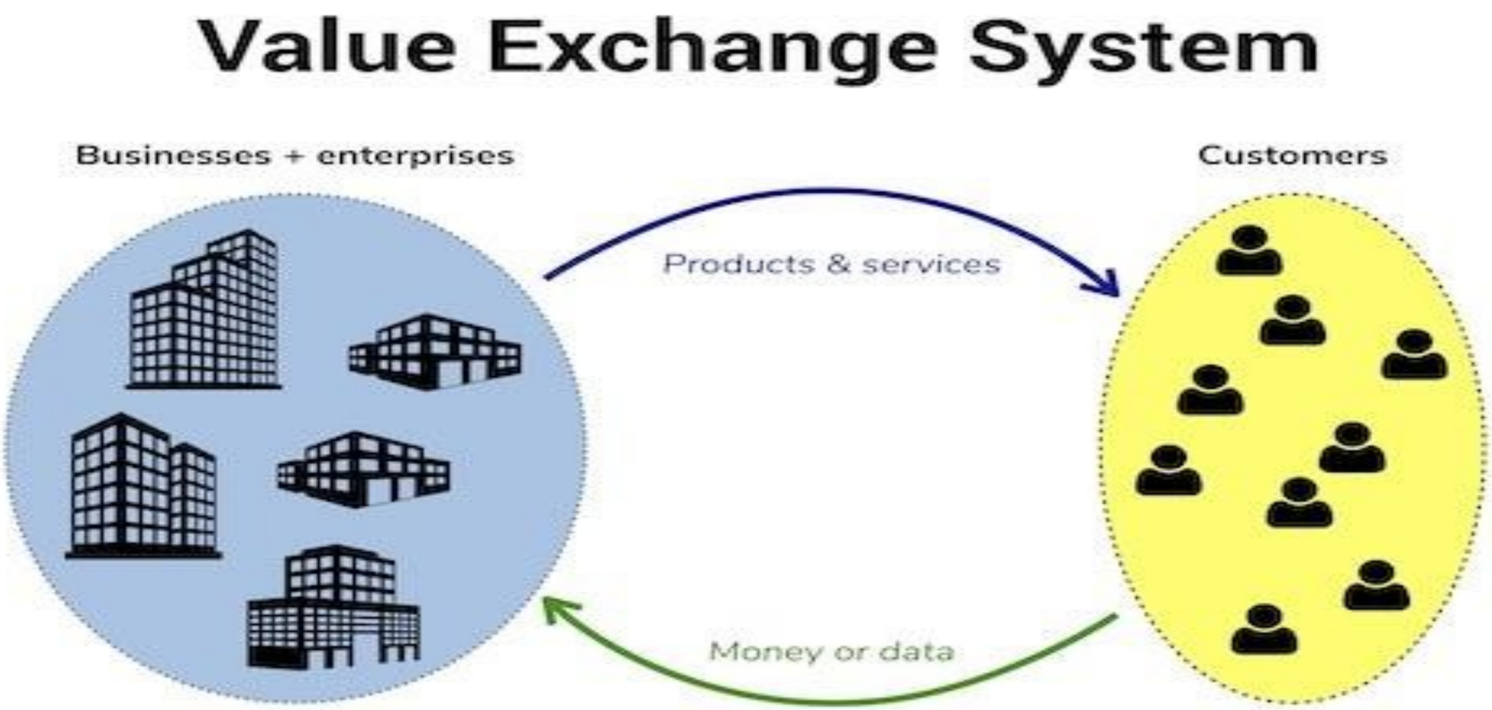
- Smart card is again similar to a credit card or a debit card in appearance, but it has a small microprocessor chip embedded in it.
- It has the capacity to store a customer’s work-related and/or personal information.
- Smart cards are also used to store money and the amount gets deducted after every transaction.
- Smart cards can only be accessed using a PIN that every customer is assigned with.

- Smart cards are secure, as they store information in encrypted format and are less expensive/provides faster processing. Mondex and Visa Cash cards are examples of smart cards.

E-Payment

VIJYA TULSANI

Value Exchange System



CONT.

- If you want to design a business model that generates revenue and provide the organization with profit, product managers and Product Owners must consider two factors.
- The first is customer value, defining what is valuable to the customer with a goal of identifying an unmet need, or unresolved problem, experienced by the customer.

Cont.

- The second is defining the value exchange, how the consumer and the producer trade value in return for access to the product.

- For product managers and Product Owners, the first insights into what defines a value exchange is defined when product-market fit has been achieved.

- However, it is not until business model fit has been achieved that a scalable and profitable business model has been recognized. That means until business model fit has been identified, Product Owners and product managers are constantly optimizing their value exchange.

CONT.

- The diagram to the right provides an idealized version of how value exchange works.

- Businesses and enterprises produce products and services in response to what they perceive to be unmet needs in the market.
- Customers somehow find these products and use them. If the products provide value to the customer, an exchange is made.
- In most cases, the value exchange is money. However, with companies like Google and Facebook, the value exchange is often your personal data.

CONT..

- In reality, value exchange is a little more complicated than customers handing over money to producers.

- In the quest to find business model fit, product managers and Product Owners have a variety of options at their disposal which will allow them to design a value exchange that is win-win for both the consumer and the producer.

- Here are the seven most common value exchange models for software products and services.

Cont..

- **Time-based access:** grants "rights to use" for a defined period of time, e.g. perpetual, annual, rental, subscription, pay after use, etc.
- **Transaction:** defined and measurable units of work tied to a transaction. In this case, customer value, and therefore the price, is often associated with an attribute of the transaction, e.g. duration, time of day of the call, etc.
- **Meter:** counting a constrained, well-define, identifiable resource, e.g. concurrent usage of resources, number of active users, an absolute value (100 hours or some other amount), etc.
- **Hardware:** value of the software is associated with the hardware the customer purchases, e.g. microwave ovens, routers, VPN servers, consumer electronics, automobiles, etc. This presents the producer with the challenge of the software becoming "free" from the perspective of the customer.

CONT..

- **Service:** value exchange tied to a service offered by the producer. In this case, the software purchased by the customer is required to provide the service or is intimately related to the service, e.g. anti-virus software, Google Suite, Red Hat Linux services, like support or upgrade, etc. This value exchange is often associated with subscription pricing.

- **Revenue obtained (or cost saved):** value is based most commonly on percentage of revenue obtained or costs saved.

- **Content:** software creates or contains unique data or content. Value exchange provides access to the content

Paperless Billing

- Paperless billing, also known as eBilling, is when you receive an electronic version of your bill instead of a paper bill.
- Your eBill includes the exact same information as your paper bill, and can be viewed or downloaded in PDF or in any other format.
- Paperless billing, also known as ebill, is when a customer receives an electronic bill rather than a paper bill in the mail.
- These paperless bills are typically emailed to customers and available within their online accounts to access and review. Many customers can set up automatic payments through ebilling.

BENEFITS
OF PAPERLESS BILLING

FOR CUSTOMERS

- On-the-go convenience
- Pay anytime, anywhere
- Saving money
- Reduced carbon footprint
- Security

FOR ENERGY UTILITIES

- Decreased call center traffic
- Environmental impact
- Reduced postage costs
- Improved payment speed
- Boost in customer satisfaction
- Increased customer engagement

Cont..

- eBilling has many convenient features and benefits, such as:
- You receive an email notification as soon as your monthly bill is available online.
- You're able to see your bill faster than if it were sent via regular mail.
- You can save or print a PDF version of your bill.
- You can view up to 18 months worth of bills at any given time.
- You are reducing clutter and paper waste.

Benefits of E-Billing To Customer

- Paperless billing is a convenient way for customers to access, pay and store their bills.
- Furthermore, ebilling allow customers to pay their bills directly online, rather than needing to mail a payment or travel to a customer service center.
- It also allows customers to have easy access to their billing history without the paper clutter at home.
- There are numerous advantages of paperless billing, including:
- On-the-go convenience
- Pay anytime, anywhere
- Saving money on stamps and envelopes
- Reduced carbon footprint
- Security

Cont..

- **Reduced costs:** Save on all the expenses of paper billing — everything from paper and ink to printing, envelopes, stamping, and mailing — not to mention the actual time cost to get those paper statements out the door every month.

- **Improved security:** Since paper billing requires a business to print and mail account information to customers, many people and departments review it before it arrives in customers' mailboxes.
- Throughout the process, this sensitive information can easily get lost or end up in the wrong hands. Paperless billing allows businesses to send personal information directly to their customers, minimizing the opportunities for it to get lost or stolen along the way.

Cont..

- **Quicker payments:** Mailing bills, waiting for them to be delivered, mailing reminders, and receiving payments can take weeks, sometimes even months.

- With paperless billing, you can bill customers directly through their emails or online accounts. This enables instant payment, quicker reminders, and much more efficient troubleshooting should something go wrong in the transaction.

- **Better for the planet:** Cutting down on paper is also beneficial for the environment, decreasing demand for paper and keeping paper waste out of landfills.

CONT..

- **On-the-go convenience**
- For energy utility customers, convenience is perhaps the number-one reason to enroll in **paperless billing**.

- Instead of waiting for a paper bill in the mail, customers can quickly access their bill from their email inbox. Paperless billing fits into customers' busy 24/7 schedules and helps reduce stress.

- **Environmental impact**

Environmental reasons to go paperless don't solely reside with customers. Many energy utilities have long-term environmental goals they are striving to reach, such as reducing their carbon footprint or increasing energy efficiency usage among customers.

PAPERLESS BILLING BENEFITS FOR ENERGY UTILITIES

- Paperless billing doesn't just offer benefits to customers. On the contrary, the effects of ebill are positive for customers and energy utilities alike.

- Utilities experience a variety of advantages of paperless billing, including:

- Decreased call center traffic
- Environmental impact
- Reduced postage costs
- Improved payment speed
- Boost in customer satisfaction
- Increased customer engagement

Cont..

- **Reduced operational costs**
- In addition to reduced paper waste, another paperless billing benefit is simply a decrease in costs for your energy utility. When your utility no longer has to mail paper bills, it also no longer has to buy paper, envelopes, or most importantly, stamps. This is especially important to consider as postage prices continue to rise.

- **Improved payment speed**
- Another paperless billing benefit for energy utilities is the improved payment speed and increase in bills paid. The conventional methods of processing paper-based payments are time-consuming, from the time it takes a customer to receive their bill until the payment is received by the utility.

Cont..

- **Boost in customer satisfaction**
- Paperless billing means customers have the convenience of viewing their bills and managing their accounts anywhere, anytime. According to a Fiserv household survey, 75% of customers say paperless billing helps them better manage their finances.

Increased customer engagement

- A final paperless billing benefit is an outcome that all utilities hope for: increased customer engagement. While it's already been noted that paperless billing improves customer satisfaction, ebilling also provides opportunities to increase engagement across multiple channels.

Modern payment cash, Electronic Cash

- What is a Modern Payment System?

- A modern payment system directly integrates to your point of sale and delivers a robust payment experience for both merchant and customer.

- It connects merchants to a total payment ecosystem, from merchant services to remote terminal solutions, to hardware procurement.

Credit card/ Debit card Payment

- Payments via cards are one of the most widely used and popular methods not only in India but on the international level.
- As a global payment solution, by enabling payment acceptance via cards merchants can reach outto an international market.
- Credit cards are simple to use and secure. The customer just has to enter the card number, expiry date, and CVV, which has been introduced as a precautionary measure. The CVV helps detect fraud by comparing customer details and the CVV number.
- Coming to debit cards, they can be considered the next popular method for eCommerce payments.

CONT..

- Debit cards are usually preferred by customers who shop online within their financial limits.

- The main difference between credit and debit card is with a debit card one can only pay with the money that is already in the bank account, whereas in the case of a credit card, the spent amount is billed, and payments are made at the end of the billing period.

Prepaid Card Payment

- As an alternative for credit/debit cards, prepaid cards are introduced.

- They usually come in different stored values and the customer has to choose from them. Prepaid cards have virtual currency stored in them. Though the adoption rate of prepaid cards is low, they are gradually becoming popular for certain niche categories.

Bank Transfers

- Though not popular nowadays but still bank transfer is considered as an essential payment method for eCommerce.

- It is considered as ‘if all else fails’ kind of payment method. Some of the eCommerce stores are also keen on using bank transfer payment options.

- Customers enrolled in internet banking can do bank transfers for their online purchases. Bank transfer is the most secure method as the transactions need to be approved and authenticated by the customers.

- It is a simple way of paying for online purchases and does not require the customer to have a card for payment purposes

E-WALLETS

- E-wallet is one of the booming trends which gives a new shopping experience altogether. The use of e-wallets is becoming popular at an alarming rate.
- E-Wallets require a sign up from merchants as well as customers. After creating an e-wallet account and linking it to the bank account they can withdraw or deposit funds.
- The whole procedure with an e-wallet is easy and fast. Considered as an advanced and instant digital payment method, e-wallets can be integrated with mobile wallets using advanced functionalities like NFC(Near Field Communication).
- Prepaid e-wallet accounts store customer information and multiple credit/ debit cards and bank accounts. It needs one-time registration and eliminates the need for re- entering information every time while making payments.

Cash

- Let's face it, in India cash is the king. For eCommerce, it comes in the form of the cash-on-delivery option.

- Cash is often used for physical goods and cash-on-delivery transactions.

- It does come with several risks, such as no guarantee of an actual sale during delivery, and theft.

- Though nowadays, cash on delivery does not necessarily mean customers pay with cash (they can use cards, mobile payments as payment terminals are often available with delivery agents), missing out on this is a strict NO.

Mobile Payments

- Payment acceptance was no exception for mobile penetration.

- This digital payment solution offers a quick solution for customers. To set up a mobile payment method, the customer just has to download software and link it to the credit card.

- As eCommerce is becoming mobile mainstreamed, customers are finding it more convenient to use mobile payment options.

ELECTRONIC PAYMENT SYSTEM

- One of the most popular payment forms online are credit and debit cards. Besides them, there are also alternative payment methods, such as bank transfers, electronic wallets, smart cards or bitcoin wallet (bitcoin is the most popular cryptocurrency).

- E-payment methods could be classified into two areas, credit payment systems and cash payment systems.

Credit Payment System

- **Credit Card** — A form of the e-payment system which requires the use of the card issued by a financial institute to the cardholder for making payments online or through an electronic device, without the use of cash.

- **E-wallet** — A form of prepaid account that stores user's financial data, like debit and credit card information to make an online transaction easier.

- **Smart card** — A plastic card with a microprocessor that can be loaded with funds to make transactions; also known as a chip card.

CASH PAYMENT SYSTEM

- **Direct debit** — A financial transaction in which the account holder instructs the bank to collect a specific amount of money from his account electronically to pay for goods or services.

- **E-check** — A digital version of an old paper check. It's an electronic transfer of money from a bank account, usually checking account, without the use of the paper check.

- **E-cash** is a form of an electronic payment system, where a certain amount of money is stored on a client's device and made accessible for online transactions.

- **Stored-value card** — A card with a certain amount of money that can be used to perform the transaction in the issuer store. A typical example of stored-value cards are

  gift cards.

Pros and Cons of E-Payment System

- Reaching **more clients** from all over the world, which results in more sales.

- More **effective and efficient transactions** — It's because transactions are made in seconds (with one-click), without wasting customer's time. It comes with speed and simplicity.

- **Convenience**. Customers can pay for items on an e- commerce website at anytime and anywhere. They just need an internet connected device. As simple as that!

- **Lower transaction cost** and decreased technology costs.

Cont..

- **Expenses control for customers**, as they can always check their virtual account where they can find the transaction history.

- Today it's **easy to add payments to a website**, so even a non-technical person may implement it in minutes and start processing online payments.

- Payment gateways and payment providers offer highly **effective security and anti-fraud tools** to make transactions reliable.

CONT..

- Sounds great, so are there any drawbacks?

- E-commerce **fraud** is growing at 30% per year. If you follow the security rules, there shouldn't be such problems, but when a merchant chooses a payment system which is not highly secure, there is a risk of sensitive data breach which may cause identity theft.

- **The lack of anonymity** — For most, it's not a problem at all, but you need to remember that some of your personal data is stored in the database of the payment system.

- **The need for internet access** — As you may guess, if the internet connection fails, it's impossible to complete a transaction, get to your online account, etc.

Electronic Funds Transfer (EFT)

Electronic Funds Transfer (EFT) is a system of transferring money from one bank account directly to another without any paper money changing hands. One of the most widely-used EFT programs is Direct Deposit, in which payroll is deposited straight into an employee's bank account, although EFT refers to any transfer of funds initiated through an electronic terminal, including credit card, ATM, Fedwire and point-of-sale (POS) transactions. It is used for both credit transfers, such as payroll payments, and for debit transfers, such as mortgage payments.

Transactions are processed by the bank through the Automated Clearing House (ACH) network, the secure transfer system that connects all U.S. financial institutions. For payments, funds are transferred electronically from one bank account to the billing company's bank, usually less than a day after the scheduled payment date.

The growing popularity of EFT for online bill payment is paving the way for a paperless universe where checks, stamps, envelopes, and paper bills are obsolete. The benefits of EFT include reduced administrative costs, increased efficiency, simplified bookkeeping, and greater security. However, the number of companies who send and receive bills through the Internet is still relatively small.

THANK YOU