CHAPTER 4

E-COMMERCE

E-COMMERCE AND E-BUSSINESS

E-COMMERCE

E-Commerce refers to the performing online commercial activities, transactions over internet. It includes activities like buying and selling product, making monetary transactions etc over internet. Internet is used for E-commerce. Websites and applications (apps) are required for e-commerce. it is mainly connected with the end process of flow means connected with the end customer.

Examples: online retailers like amazon, flipkart, Myntra, paytm mall, seller of digital goods like ebooks, online service etc.

Activities of E-Commerce are :

- Buying and selling product online
- Online ticketing
- Online Payment
- Paying different taxes
- Online accounting software
- Online customer support

FEATURES OF E-COMMERCE ARE :

- **Non-Cash Payment** − E-Commerce enables the use of credit cards, debit cards, smart cards, electronic fund transfer via bank's website, and other modes of electronics payment.
- **24x7 Service availability** − E-commerce automates the business of enterprises and the way they provide services to their customers. It is available anytime, anywhere.
- **Advertising / Marketing** − E-commerce increases the reach of advertising of products and services of businesses. It helps in better marketing management of products/services.
- **Improved Sales** − Using e-commerce, orders for the products can be generated anytime, anywhere without any human intervention. It gives a big boost to existing sales volumes.
- **Support** − E-commerce provides various ways to provide pre-sales and post-sales assistance to provide better services to customers.
- **Inventory Management** − E-commerce automates inventory management. Reports get generated instantly when required. Product inventory management becomes very efficient and easy to maintain.

Communication improvement – E-commerce provides ways for faster, efficient, reliable communication with customers and partners

TYPES OF E-COMMERCE

1. **Business to Consumer (B2C):** When a good or service is sold to an individual consumer by a business, e.g., we buy a pair of shoes from an online retailer.
2. **Business to Business (B2B):** When a good or service is sold by a business to another business, e.g., a software-as-a-service is sold by a business for other businesses to use.
3. **Consumer to Consumer (C2C):** When a good or service is sold by a consumer to another consumer, e.g., we sell our old furniture on eBay to another consumer.
4. **Consumer to Business (C2B):** When a consumer's own products or services is sold to a business or organization, e.g., an authority offers exposure to their online audience in exchange for a fee or a photographer licenses their photo for a business to use.

E-BUSSINESS

E-Business refers to performing all type of business activities through internet. It includes activities like procurement of raw materials/goods, customer education, supply activities buying and selling product, making monetary transactions etc over internet. Internet, intranet, extranet are used in e-business. Websites, apps, ERP, CRM etc are required for e-business.

Examples : e-commerce companies and its various internal business activities, auction site, classified site, software and hardware developer site etc.

Activities of E-Commerce are :

- Online store setup
- Customer education
- Buying and selling product
- Monetary business transaction
- Supply Chain Management
- E-mail marketing

EVOLUTION OF ECOMMERCE

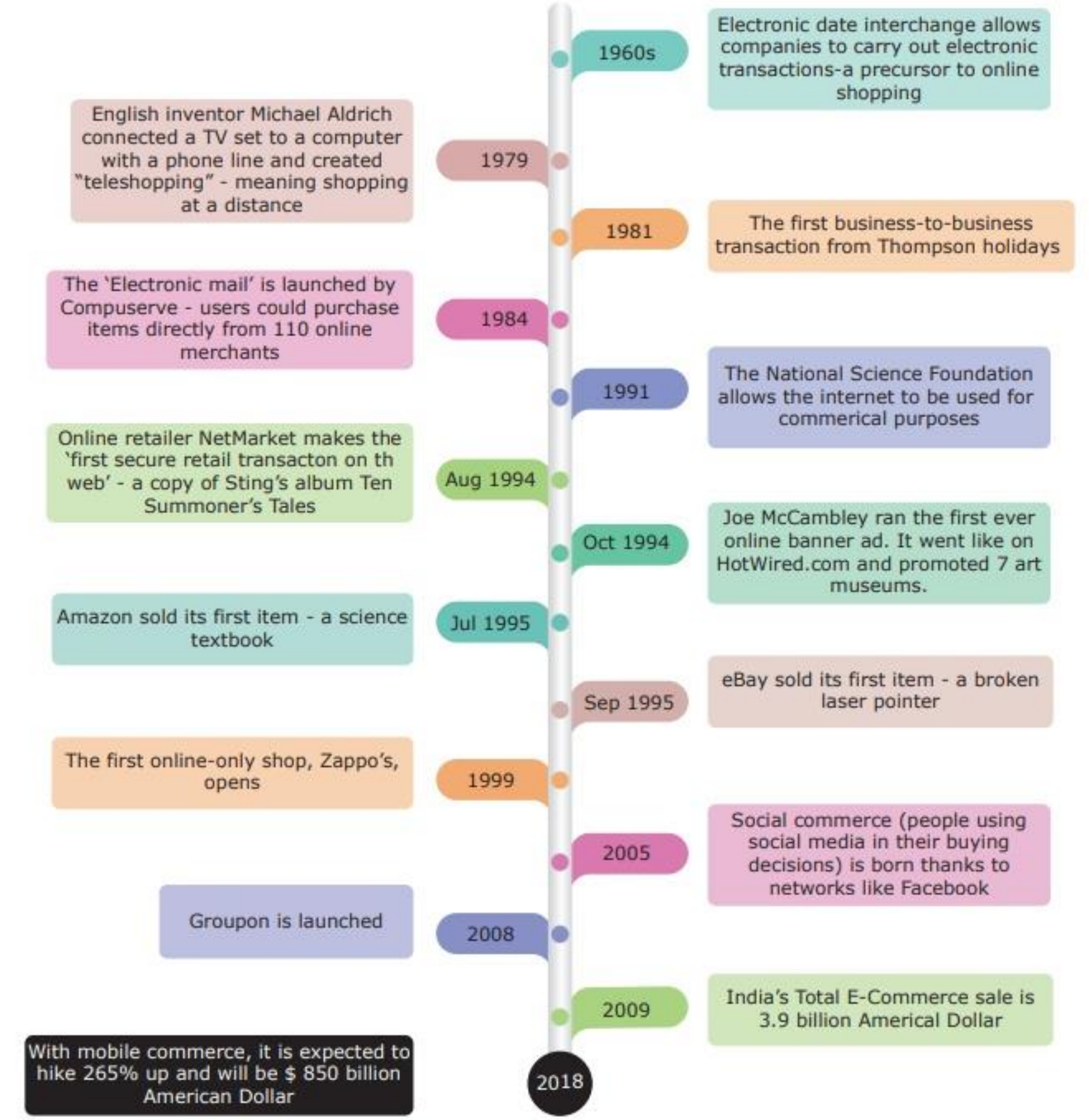

Figure 15.4 Timeline describing various events in E-Commerce

FACTORS FUELING ECOMMERCE

ECONOMIC FORCES: One of the most evident benefits of e-commerce is economic efficiency resulting from the reduction in communications costs, lower global information sharing and advertising costs, and cheaper customer service alternatives.

MARKET FORCES: Corporations are encouraged to use e-commerce in marketing and promotion to capture international markets, both big and small.

TECHNOLOGY FORCES: The development of ICT is a key factor in the growth of e-commerce.

COMPARISON OF E-COMMERCE WITH TRADITIONAL COMMERCE

S.No.	TRADITIONAL COMMERCE	E-COMMERCE
01.	Traditional commerce refers to the commercial transactions or exchange of information, buying or selling product/services from person to person without use of internet.	E-commerce refers to the commercial transactions or exchange of information, buying or selling product/services electronically with the help of internet.
02.	In traditional commerce it is difficult to establish and maintain standard practices.	In e-commerce it is easy to establish and maintain standard practices.
03.	In traditional commerce direct interaction through seller and buyer is present.	In e-commerce indirect interaction through seller and buyer occurs using electronic medium and internet.
04.	Traditional commerce is carried out by face to face, telephone lines or mail systems.	E-commerce is carried out by internet or other network communication technology.
05.	In traditional commerce processing of transaction is manual.	In e-commerce processing of transaction is automatic.
06.	In traditional commerce delivery of goods is instant.	In e-commerce delivery of goods takes time.
07.	Its accessibility is for limited time in a day.	Its accessibility is 24×7×365 means round the clock.
08.	Traditional commerce is done where digital network is not reachable.	E-commerce is used to save valuable time and money.
09.	Traditional commerce is a older method of business style which comes under traditional business.	E-commerce is a newer concept of business style which comes under e-business.
10.	Its resource focuses on supply side.	Its resource focuses on demand side.
11.	In traditional commerce customers can inspect products physically before purchase.	In e-commerce customers can not inspect products physically before purchase.
12.	Its business scope of business is a limited physical area.	Its business scope is worldwide as it is done through digital medium.
13.	For customer support, information exchange there is no such uniform platform.	For customer support, information exchange there is exists uniform platform.

INTRODUCTION TO INTERNET ENVIRONMENT FOR E-COMMERCE

The internet environment is a critical component of e-commerce. It consists of a network of interconnected devices and servers that enable data to be transmitted between them. This infrastructure facilitates the creation of an online presence for e-commerce businesses through websites, mobile apps, and social media platforms.

The internet also provides the tools and technologies that enable e-commerce transactions to be processed securely. This includes encryption technology, secure payment gateways, and fraud detection systems that protect sensitive customer information such as credit card numbers and personal details.

In addition, the internet environment allows e-commerce businesses to expand globally by providing access to a global audience. With improvements in logistics and shipping, e-commerce businesses can now sell their products and services to customers worldwide.

Overall, the internet environment is a critical enabler of e-commerce, providing the necessary infrastructure and tools to enable online businesses to operate and grow in today's digital economy.

E COMMERCE PAYMENT SYSTEM

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 –

1. **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.

2. **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.

3. **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.

4. **E-Money**

E-Money transactions refer to situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient, and saves a lot of time.

Online payments done via credit cards, debit cards, or smart cards are examples of emoney transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant have to sign up with the bank or company issuing e-cash.

5. **Electronic Fund Transfer**

It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in the same bank or different banks. Fund transfer can be done using ATM (Automated Teller Machine) or using a computer.

Nowadays, internet-based EFT is getting popular. In this case, a customer uses the website provided by the bank, logs in to the bank's website and registers another bank account. He/she then places a request to transfer certain amount to that account. Customer's bank transfers the amount to other account if it is in the same bank, otherwise the transfer request is forwarded to an ACH (Automated Clearing House) to transfer the amount to other account and the amount is deducted from the customer's account. Once the amount is transferred to other account, the customer is notified of the fund transfer by the bank.

E COMMERCE SECURITY SYSTEM :

Security is an essential part of any transaction that takes place over the internet. Customers will lose his/her faith in e-business if its security is compromised. Following are the essential requirements for safe e-payments/transactions −

Confidentiality − Information should not be accessible to an unauthorized person. It should not be intercepted during the transmission.
Integrity − Information should not be altered during its transmission over the network.
Availability − Information should be available wherever and whenever required within a time limit specified.
Authenticity − There should be a mechanism to authenticate a user before giving him/her an access to the required information.
Non-Repudiability − It is the protection against the denial of order or denial of payment. Once a sender sends a message, the sender should not be able to deny sending the message. Similarly, the recipient of message should not be able to deny the receipt.
Encryption − Information should be encrypted and decrypted only by an authorized user.
Auditability − Data should be recorded in such a way that it can be audited for integrity requirements.

Measures to ensure security:

1. Encryption
2. Digital Signature
3. Security Certificate

Security protocols on internet:

Secure Socket Layer (SSL)

It is the most commonly used protocol and is widely used across the industry. It meets following security requirements −

Authentication
Encryption
Integrity
Non-reputability

"https://" is to be used for HTTP urls with SSL, where as "http:/" is to be used for HTTP urls without SSL.

Secure Hypertext Transfer Protocol (SHTTP)

SHTTP extends the HTTP internet protocol with public key encryption, authentication, and digital signature over the internet. Secure HTTP supports multiple security mechanism, providing security to the end-users. SHTTP works by negotiating encryption scheme types used between the client and the server.