

Q.1 What is E-commerce? Explain its types?

4

Ans: E-commerce is usually associated with buying and selling over the Internet, or conducting any transaction involving the transfer of ownership or rights to use goods or services through a computer-mediated network.

There are 6 basic types of e-commerce:

1. Business-to-Business (B2B)
2. Business-to-Consumer (B2C)
3. Consumer-to-Consumer (C2C)
4. Consumer-to-Business (C2B).
5. Business-to-Administration (B2A)
6. Consumer-to-Administration (C2A)

1. Business-to-Business (B2B)

Business-to-Business (B2B) e-commerce encompasses all electronic transactions of goods or services conducted between companies. Producers and traditional commerce wholesalers typically operate with this type of electronic commerce.

2. Business-to-Consumer (B2C)

The Business-to-Consumer type of e-commerce is distinguished by the establishment of electronic business relationships between businesses and final consumers. It corresponds to the retail section of e-commerce, where traditional retail trade normally operates.

These types of relationships can be easier and more dynamic, but also more sporadic or discontinued. This type of commerce has developed greatly, due to the advent of the web, and there are already many virtual stores and malls on the Internet, which sell all kinds of consumer goods, such as computers, software, books, [shoes](#), cars, food, financial products, digital publications, etc.

When compared to buying retail in traditional commerce, the consumer usually has more information available in terms of informative content and there is also a widespread idea that you'll be buying cheaper, without jeopardizing an equally personalized customer service, as well as ensuring quick processing and delivery of your order.

3. Consumer-to-Consumer (C2C)

Consumer-to-Consumer (C2C) type e-commerce encompasses all electronic transactions of goods or services conducted between consumers. Generally, these transactions are conducted through a third party, which provides the online platform where the transactions are actually carried out.

4. Consumer-to-Business (C2B)

In C2B there is a complete reversal of the traditional sense of exchanging goods. This type of e-commerce is very common in crowdsourcing based projects. A large number of individuals make their services or products available for purchase for companies seeking precisely these types of services or products.

Examples of such practices are the sites where designers present several proposals for a company logo and where only one of them is selected and effectively purchased. Another

platform that is very common in this type of commerce are the markets that sell royalty-free photographs, images, media and design elements, such as [iStockphoto](#).

5. Business-to-Administration (B2A)

This part of e-commerce encompasses all transactions conducted online between companies and public administration. This is an area that involves a large amount and a variety of services, particularly in areas such as fiscal, social security, employment, legal documents and registers, etc. These types of services have increased considerably in recent years with investments made in e-government.

6. Consumer-to-Administration (C2A)

The Consumer-to-Administration model encompasses all electronic transactions conducted between individuals and public administration.

Examples of applications include:

- Education – disseminating information, distance learning, etc.
- Social Security – through the distribution of information, making payments, etc.
- Taxes – filing tax returns, payments, etc.
- Health – appointments, information about illnesses, payment of health services, etc.

Q.2 Explain WAP technology in detail?

Ans: WAP stands for Wireless Application Protocol. Per the dictionary definition for each of these words we have:

Wireless: Lacking or not requiring a wire or wires pertaining to radio transmission.

Application: A computer program or piece of computer software that is designed to do a specific task.

Protocol: A set of technical rules about how information should be transmitted and received using computers.

WAP is the set of rules governing the transmission and reception of data by computer applications on or via wireless devices like mobile phones. WAP allows wireless devices to view specifically designed pages from the Internet using only plain text and very simple black-and-white pictures.

WAP is a standardized technology for cross-platform, distributed computing very similar to the Internet's combination of Hypertext Markup Language (HTML) and Hypertext Transfer Protocol (HTTP), except that it is optimized for:

low-display capability

low-memory

low-bandwidth devices, such as personal digital assistants (PDAs), wireless phones, and pagers.

WAP is designed to scale across a broad range of wireless networks like GSM, IS-95, IS-136, and PDC.

Who is behind WAP?

The Wireless Application Protocol (WAP) is a result of joint efforts taken by companies teaming up in an industry group called WAP Forum (www.wapforum.org).

On June 26, 1997, Ericsson, Motorola, Nokia, and Unwired Planet took the initiative to start a rapid creation of a standard for making advanced services within the wireless domain a reality. In December 1997, WAP Forum was formally created and after the release of the WAP 1.0 specifications in April 1998, WAP Forum membership was opened to all.

The WAP Forum now has over 500 members and represents over 95 percent of the global handset market. Companies such as Nokia, Motorola and Ericsson are all members of the forum.

The objective of the forum is to create a license-free standard that brings information and telephony services to wireless devices.

Why is WAP Important?

Until the first WAP devices emerged, the Internet was a Internet and a mobile phone was a mobile phone. You could surf the Net, do serious research, or be entertained on the Internet using your computer, but this was limited to your computer.

Now with the appearance of WAP, the scene is that we have the massive information, communication, and data resources of the Internet becoming more easily available to anyone with a mobile phone or communications device.

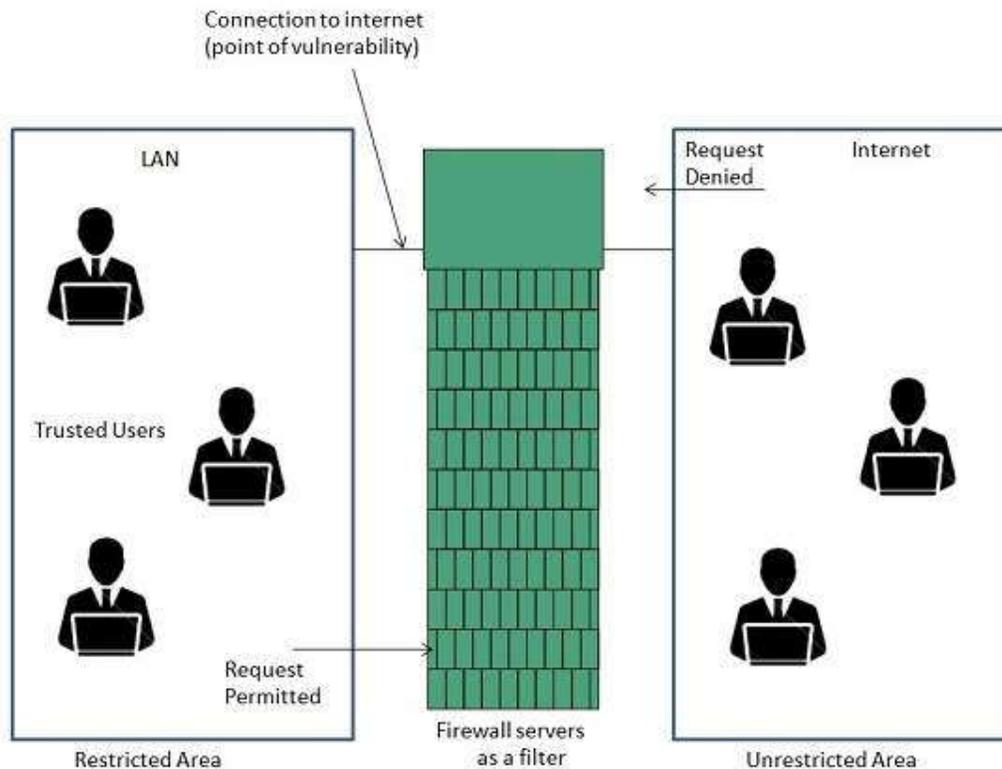
WAP being open and secure, is well suited for many different applications including, but not limited to stock market information, weather forecasts, enterprise data, and games.

Despite the common misconception, developing WAP applications requires only a few modifications to existing web applications. The current set of web application development tools will easily support WAP development, and in the future more development tools will be announced.

Q.3 Explain transaction security in firewall?

Ans: Firewall is a barrier between Local Area Network (LAN) and the Internet. It allows keeping private resources confidential and minimizes the security risks. It controls network traffic, in both directions.

The following diagram depicts a sample firewall between LAN and the internet. The connection between the two is the point of vulnerability. Both hardware and the software can be used at this point to filter network traffic.



There are two types of Firewall system: One works by using filters at the network layer and the other works by using proxy servers at the user, application, or network layer.

Key Points

Firewall management must be addressed by both system managers and the network managers.

The amount of filtering a firewall varies. For the same firewall, the amount of filtering may be different in different directions.

Max Marks: 10

Subject: E-commerce

Time: 1hr

Q.1 Explain supply chain management?

Ans: Supply chain management (SCM) is the active management of supply chain activities to maximize customer value and achieve a sustainable competitive advantage. It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective & efficient ways possible. Supply chain activities cover everything from product development, sourcing, production, and logistics, as well as the information systems needed to coordinate these activities.

The concept of Supply Chain Management (SCM) is based on two core ideas:

The first is that practically every product that reaches an end user represents the cumulative effort of multiple organizations. These organizations are referred to collectively as the supply chain.

The second idea is that while supply chains have existed for a long time, most organizations have only paid attention to what was happening within their “four walls.” Few businesses understood, much less managed, the entire chain of activities that ultimately delivered products to the final customer. The result was disjointed and often ineffective supply chains.

The organizations that make up the supply chain are “linked” together through physical flows and information flows.

Physical Flows

Physical flows involve the transformation, movement, and storage of goods and materials. They are the most visible piece of the supply chain. But just as important are information flows.

Information Flows

Information flows allow the various supply chain partners to coordinate their long-term plans, and to control the day-to-day flow of goods and materials up and down the supply chain.

Q.2 Explain Customer relationship management model?

Ans: Customer relationship management (CRM) refers to the principles, practices and guidelines that an organization follows when interacting with its customers. From the organization's point of view, this entire relationship encompasses direct interactions with customers, such as sales and service-related processes, and forecasting and analysis of customer trends and behaviors. Ultimately, CRM serves to enhance the customer's overall experience.

With the growth of the Internet and related technologies, customers are concerned over the privacy and safety of their personal information. Therefore, businesses need to ensure the storage and analysis of their customer data has the highest levels of protection against cyber criminals, identity theft and other breaches of security.

Elements of CRM range from a company's website and emails to mass mailings and telephone calls. Social media represents one way companies adapt to trends that benefit their bottom line. The entire point of CRM is to build positive experiences with customers to keep them coming back so a company creates a growing base of returning customers.

Software

Special CRM software aggregates customer information in one place to give businesses easy access to data, such as contact data, purchase history and any previous contact with customer service representatives. This data helps employees interact with clients, anticipate customer needs, recognize customer updates and track performance goals when it comes to sales. CRM software's main purpose is to make interactions more efficient and productive. Automated procedures within a CRM module include sending a sales team marketing materials based on a customer's selection of a product or service. Programs also assess a customer's needs to reduce the time it takes to fulfill a request.

Cloud Solutions

Cloud-based systems provide real-time data to sales agents at the office and in the field as long as a computer, smartphone, laptop or tablet connects to the Internet. The convenience of this type of system has a trade-off. If the company goes out of business or faces acquisition, access to customer information may become compromised. A business might have compatibility issues when and if it migrates to a different vendor for this kind of software. Typically, cloud-based CRM programs cost more than in-house programs.

Management

All of the computer software in the world to help with CRM means nothing without proper management and decision-making from humans. Plus, the best programs organize data in a way that humans can interpret readily and use to their advantage. For successful CRM, companies must learn to discern useful information and superfluous data, and weed out any duplicate and incomplete records that may give employees inaccurate information about customers.

Q.3 What is digital signature? Why we use it in online payment?

Ans: Digital Signature is a process that guarantees that the contents of a message have not been altered in transit.

When you, the server, digitally sign a document, you add a one-way hash (encryption) of the message content using your public and private key pair.

Your client can still read it, but the process creates a "signature" that only the server's public key can decrypt. The client, using the server's public key, can then validate the sender as well as the integrity of message contents.

Whether it's

- an email
- an online order
- or a watermarked photograph on eBay

if the transmission arrives but the digital signature does not match the public key in the digital certificate, then the client knows that the message has been altered.

How does a Digital Signature Work?

The digital signature can be considered as a numerical value that is represented as a sequence of characters. The creation of a digital signature is a complex mathematical process that can only be created by a computer.

Consider a scenario where Alice has to digitally sign a file or an email and send it to Bob.

Alice selects the file to be digitally signed or clicks on 'sign' in her email application

The hash value of the file content or the message is calculated by Alice's computer

This hash value is encrypted with Alice's Signing Key (which is a Private Key) to create the Digital Signature.

Now, the original file or email message along with its Digital Signature are sent to Bob.

After Bob receives the signed message, the associated application (such as email application) identifies that the message has been signed. Bob's computer then proceeds to:

Decrypt the Digital Signature using Alice's Public Key

Calculate the hash of the original message

Compare the (a) hash it has computed from the received message with the (b) decrypted hash received with Alice's message.

Any difference in the hash values would reveal tampering of the message.

