

# Ecommerce framework

The basic framework of e-commerce enables doing business online. The framework consists of a comprehensive structure beginning with the based technology layer to the general service layer. E-commerce has, to a certain extent, changed markets structure. Traditionally, market ties were created through the exchange of goods, services, and money. E-commerce has brought in an essential element: information. Market ties are now based on information services, information goods and electronic money. Although the nature of exchanging products remains unchanged, the channel and the format of doing business have changed. To better understand the basic framework of e-commerce, the following paragraphs explain the features of the major layers in the environment of e-commerce.

## Basic Framework

### The First layer: Network Infrastructure

Also known as the “Information Superhighway”, network infrastructure is the foundation layer of hardware infrastructure. It is a mixture of many forms of information transport systems, which include telecom, cable TV, wireless and the Internet. These systems, in particular the Internet, provide various types of telecommunication channels for transmission of contents used in e-commerce.

### The Second Layer: Multimedia Content and Network Publishing

While the Information Superhighway is the transportation basis that allows content such as text, sounds and images to be transmitted, the second layer provides an architecture that enables the content to be developed in a programming language know as Hyper Text Markup Language (HTML) for publishing on the World Wide Web (WWW). Another programming language in use is Java, which enables multimedia content to be transmitted to end users’ personal computers via various networks such as cable, wireless, fiber optics and satellites.

### The Third layer: Messaging and Information Dissemination

Messaging transmission is usually done by the following technologies:

- a) **Communicating non-formatted data:** by using facsimile, electronic mail which mainly directs to individuals.
- b) **Communicating formatted data:** by using Electronic Data Interchange (EDI) without human intervention. It is mainly used for business documents such as purchase orders, invoices and packing lists. Messaging transmission technology has encouraged business process automation.

- c) **Hyper Text Transfer Protocol (HTTP):** HTTP is an information dissemination tool generally used on the Internet. It uses a common display format to publish non-formatted multimedia messages in various environments.
- d) **Uniform Resource Locator (URL):** URL is at present used by many web surfers to search for information.

#### **The Fourth layer: Security Protection in Business Services**

This layer is regarded as the essential facilities for doing business because it is required by both business corporations and individuals in business transactions. The facilities include standardized product catalogues, price lists, electronic payment methods, secured transmission of business information, and the authentication of identity of both trading parties. The ultimate goal of e-commerce is that the seller gets the payment and the buyer obtains the product. To ensure transaction security, e-commerce needs to ensure content reliability, integrity, non-repudiation, and to provide the relevant evidence in case of disputes. Therefore, payment security on the web is crucial to ensure smooth completion of a transaction. The prevailing method of security measure is by electronic certification which provides 'end-to-end' security protection.

#### **The Fifth layer: Practical Application of E-commerce**

E-commerce is widely employed in supply chain management, electronic marketing, electronic advertising, online shopping, online entertainment, pay-information service and network banking.

The application of e-commerce has promoted business globalization. Consumers can easily obtain products from other countries via the Internet. This has given rise to issues such as custom clearance and payment of duties. Different countries have different systems and conditions, which may contradict with the cross-border nature of e-commerce. Therefore, international collaboration to develop associated policies and regulations is vital. Crippling laws and regulations will hamper the development of e-commerce.