Chapter 34
E–Commerce Business Models:
Part 1

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ABSTARCT

In this article the author explained the classes of e-commerce business models and their advantages and disadvantages. He discussed the important issues and problems facing e-commerce web sites and how to build a successful e-commerce Web site using techniques of security, privacy and authentication, guidelines of maintenance, collecting user's information for personalization, using multi-tier architecture to achieve high performance and high availability.

INTRODUCTION

Internet and computers have revolutionized the electronic transactions which involve the transaction of ownership or right to use products or services online. E-commerce not only involves buying and selling over the Internet but also collaborating with business partners. It is not constrained by time or physical location it can be conducted at any time from any place which opened unlimited new markets. A business model is a framework of how an organization generates revenue. E-commerce business models use the Internet to carry on their activities and generate revenue. They have been developed from being a plain text websites to interactive e-commerce hubs that use Internet and mobile technologies to reach their current customers and attract the potential customers. Some services and products can be delivered by the internet while others do not. Services that can be delivered through the internet include distance learning, financial services, pension services, legal services, news services, and advisory services, information services such as information on travel flights, buses and trains services.

However, services that cannot be delivered using the internet include police and law enforcement treatment, fire brigade services, first aid, nursing, physiotherapy, surgery operations, dental services, hairdressing, house cleaning, waste disposal and

washing services, plumbing and hosing, ventilating and heating services, forensics, transportation, freight and shipping services, building services, wedding, childcare, security and warehousing. Products that difficult to be delivered through the internet include jewels and timepieces, footwear, beauty care and cosmetics, furniture, frames of eyeglasses. All these products need to be tried out and assessed by the customers. In jewels ladies want to try out different models of jewels to choose a suitable one. In furniture it is hard to describe the required design and colors through the Internet and customers need to touch and try the furniture before taking a decision. The same issue applied for beauty care and cosmetics where ladies want to compare between different colors on their faces before taking a decision. However, an e-commerce business will not work well unless there is a well equipped infrastructure which includes computers that can connect to the Internet Service Provider (ISP) through dial-up lines or dedicated lines that offer a high bit rates such as digital subscriber lines (DSL). DSL is recommended if a user wants a faster access to the internet. ISPs provide the Internet access to customers at their homes, business and institutions. Berners-Lee in 1989-1991 and his associates developed the essential components of a Web site which are: HTML, HTTP, a Web server and a browser. The HyperText Markup Language (HTML) which is a programming language can be used to build Web pages on a Web server. Remote client computers which are called Web clients can access these Web pages using the HyperText Transfer Protocol (HTTP) to be displayed using Web browsers. Customers should easily interact with their Web sites or they will be lost to competitors and discouraging return visits to this Web site which results in sales losses. Software tools are required to achieve high levels of interactivity with Web sites which may include:

- Common Gateway Interface (CGI): is a standard protocol for communication between Web clients' browsers and application software running on a Web server that allows the Web server to respond to requests from Web clients. Each time a request is received the CGI analyzes the request and if it identifies a file stored on the server it sends the file back to the user, and if it is required to execute a command on an application it runs the command and sends the output back to the user.

- Active Server Pages (ASP): is a development software tool which can be used to create and run dynamic and interactive Web server applications. When a client's browser requests ASP file from a Web server it is processed on the server and the output is in pure HTML code which is sent to the client's browser to display it in a formatted text. ASP is a Microsoft technology that was designed to run on Windows operating system that runs Microsoft Internet Information Server (IIS). The active content is written with a scripting language.

- Java: is a programming language used to build interactive contents on the client computer thus saving considerable server load. A Java program is called applet when it runs from a Web page and called servlets when it runs on server. A Java program is first translated into Java intermediate language (Bytecode) which is then executed on an interpreter called Java Virtual Machine (JVM). JVM interprets the intermediate code to machine code. Any computer that runs JVM is able to interpret the intermediate code which gives the Java language the ability to run on any platform such as Linux, Mac OS X or Windows.

- Java Server Pages (JSP): is a Java technology that allows developers to create Web pages that contain dynamically generated content. It can combine any document types such as HTML or Extensible Markup Language (XML) tags to encapsulate the logic that generates the content for the

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