

E-COMMERCE

HOME WORK 2, R.NO: MA08M005

E-TRANSACTION:

An electronic transaction is the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computermediated networks. The goods and services are ordered over these networks, but the payment and the ultimate delivery of the good and service may be conducted on or off-line. Similarly an internet transaction is conducted over internet.

Transactions have 4 basic properties - the so called ACID properties

- A = Atomicity (a transaction is completely finished or completely rolled back)
- C = Consistency (system gets a valid new state or stays in the previous state)
- I = Isolation (transaction is separated from other ones during processing)
- D = Durability (system is left in a valid state even after a system failure)

Benefits

Online Transaction Processing has two key benefits: simplicity and efficiency. Reduced paper trails and the faster, more accurate forecasts for revenues and expenses are both examples of how OLTP makes things simpler for businesses.

Disadvantages

As with any information processing system, security and reliability are considerations. Online transaction systems are generally more susceptible to direct attack and abuse than their offline counterparts. When organizations choose to rely on OLTP, like any other technology, operations can be severely impacted by reliability problems. Also, some systems require offline maintenance which further affects the cost-benefit analysis.

Distributed transactions

Database systems implement distributed transactions as transactions against multiple applications or hosts. A distributed transaction enforces the ACID properties over multiple systems or data stores, and might include systems such as databases, file systems, messaging systems, and other applications. In a distributed transaction a coordinating service ensures that all parts of the

transaction are applied to all relevant systems. As with database and other transactions, if any part of the transaction fails, the entire transaction is rolled back across all affected systems.

Distributed Database

These are databases of local work groups and departments at regional offices, branch offices, manufacturing plants and other work sites. These databases can include segments of both common operational and common user databases, as well as data generated and used only at a user's own site.

E-BUSINESS:

Electronic Business, commonly referred to as "**e-Business**", may be defined as the utilization of information and communication technologies in support of all the activities of business. Commerce constitutes the exchange of products and services between businesses, groups and individuals and so can be seen as one of the essential activities of any business. Hence, electronic commerce or eCommerce focuses on the use of ICT to enable the external activities and relationships of the business with individuals, groups and other businesses .

Electronic business methods enable companies to link their internal and external data processing systems more efficiently and flexibly, to work more closely with suppliers and partners, and to better satisfy the needs and expectations of their customers.

In practice, e-business is more than just e-commerce. While e-business refers to more strategic focus with an emphasis on the functions that occur using electronic capabilities, e-commerce is a subset of an overall e-business strategy. E-commerce seeks to add revenue streams using the World Wide Web or the Internet to build and enhance relationships with clients and partners and to improve efficiency using the Empty Vessel strategy. Often, e-commerce involves the application of knowledge management systems.

E-business involves business processes spanning the entire value chain: electronic purchasing and supply chain management, processing orders electronically, handling customer service, and cooperating with business partners. Special technical standards for e-business facilitate the exchange of data between companies. E-business software solutions allow the integration of intra and inter firm business processes. E-business can be conducted using the Web, the Internet, intranets, extranets, or some combination of these.

Three primary processes are enhanced in e-business: 1. **Production processes**, which include procurement, ordering and replenishment of stocks; processing of payments; electronic links with suppliers; and production control processes, among others; 2. **Customer-focused processes**, which include promotional and marketing efforts, selling over the Internet, processing of customer's purchase orders and payments, and customer support, among others; and 3. **Internal management processes**, which include employee services, training, internal information-sharing, video-conferencing, and recruiting. Electronic applications enhance information flow between production and sales forces to improve sales force productivity. Workgroup communications and electronic publishing of internal business information are likewise made more efficient. **Is the Internet economy synonymous with e-commerce and e-business?** M-commerce (mobile commerce) is the buying and selling of goods and services through wireless technology-i.e., handheld devices such as cellular telephones and personal digital assistants (PDAs). Japan is seen as a global leader in m-commerce. As content delivery over wireless devices becomes faster, more secure, and scalable, some believe that m-commerce will surpass wireline e-commerce as the method of choice for digital commerce transactions. This may well be true for the Asia-Pacific where there are more mobile phone users than there are Internet users. Industries affected by m-commerce include: **Financial services**, including mobile banking (when customers use their handheld devices to access their accounts and pay their bills), as well as brokerage services (in which stock quotes can be displayed and trading conducted from the same handheld device); **Telecommunications**, in which service changes, bill payment and account reviews can all be conducted from the same handheld device; **Service/retail**, as consumers are given the ability to place and pay for orders on-the-fly; and **Information services**, which include the delivery of entertainment, financial news, sports figures and traffic updates to a single mobile device. Forrester Research predicts US\$3.4 billion sales closed using PDA and cell phones.

E-DISSEMINATION:

Electronic dissemination of government documents offers the opportunity to reduce the costs of dissemination and make government information more usable and accessible. However, to move to an environment in which documents are disseminated solely in electronic format, a number of challenges would need to be overcome. These challenges include ensuring that these documents are (1) authentic, (2) permanently maintained, and (3) equally accessible to all individuals. In addition, cost issues should be addressed, including the effect of shifting printing costs to depository libraries and end users.

One of the advantages of electronic dissemination is that electronic documents cost less to store, maintain, and disseminate. Electronic documents require no warehouse space and incur no shipping charges. If necessary, they may be readily updated with little further production cost. The contrast in costs between electronic and paper dissemination is illustrated by the costs associated with GPO Access in fiscal year 2000. In this period, the Superintendent of Documents distributed almost 12.2 million copies of 28,849 tangible titles to depository libraries and added 32,306 online titles to the 160,726 titles available at the end of fiscal year 1999 through GPO Access. For the 28,849 tangible titles, the reported fiscal year 2000 printing and reproduction costs were about \$13.7 million; for operating and maintaining the 193,032 online titles the reported cost was about \$3.3 million.⁷

A second advantage of electronic dissemination is that electronic documents may offer greater functionality than traditional paper documents. They can be searched, can be linked to related information, can be manipulated (allowing users to cut and paste text), and may incorporate not only images, but also audio and video. Further, electronic documents make printing on demand accessible to individuals.

A third advantage of electronic dissemination is that electronic documents make government information far more accessible to citizens, including those with physical impairments. Once posted, they are immediately accessible to thousands of users from multiple locations around the nation. Because the Web is location independent, it reduces geographic differentiation and may eliminate the need for visits to a distant depository library or GPO bookstore. Moreover, unlike their paper counterparts stored in the nation's libraries and bookstores, electronic documents are generally available 24 hours a day, 7 days a week. While the Web-based dissemination of electronic government publications provides an attractive alternative to the traditional ink-on-paper approach, a number of challenges would need to be overcome if the government were to disseminate documents solely in electronic format.

These challenges include addressing (1) authentication, (2) permanence, and (3) equity of access. In addition, cost issues would need to be addressed.

Authentication provides the assurance that the electronic document is official and complete: i.e., that the document was not surreptitiously or accidentally modified. When citizens access and retrieve government documents from federal Web sites, they should have assurance that the accessed documents are authentic. Although document authentication may be achieved through electronic signatures or seals, government documents currently available on the Web often lack authentication. Once downloaded from government Web sites, documents lacking electronic

signatures or seals may be modified without detection. The FDLP is not currently using electronic signatures or other electronic means to authenticate government documents, but GPO is in the process of procuring public key infrastructure (PKI) technology⁸ to provide authentication of government publications disseminated online via GPO Access. Program officials told us that they guarantee the authenticity.^{8A} PKI is a system of hardware, software, policies, and people that, when fully and properly implemented, can provide a suite of information security assurances that are important in protecting sensitive communications and transactions.