Components, Framework & Benefits of E-Commerce in Business

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ABSTRACT
Electronic Commerce is the use of electronic communication to do business. E-Commerce is not about technology. It is not a new business. E-Commerce is a method for companies to create and operate their business in new and efficient ways. Nowadays we don't have to show up at the market, and we don't even need physical goods or currency to conduct business. E-Commerce is the most recent step in the evolution of business transactions. It replaces or augments the swapping of money or goods with the exchange of information from computer to computer. Within a few years, Internet has turned businesses upside down, be prepared or die. This might seem like an over-hyped statement, but it is not. If we look around, even today, the Internet is fundamentally changing the way companies operate from conducting business internally to conducting business with trading partners. Entirely new companies and business models are emerging. It is helping companies to lower costs dramatically across their supply and demand chains, take their customer service into a different league, enter new markets, create additional revenue streams and redefine their business relationships. If a company does not use the Internet to do any or all of these things in the near future, it will be destroyed by competitors who are leveraging the power of the Internet to conduct business, which literally means E-Commerce or Electronic Commerce is the most crucial reality of today’s business scenario.

KEYWORDS
E-Commerce, Framework, Components, EDI, ATM

1. INTRODUCTION
Electronic commerce or E-Commerce is a very broad term. E-Commerce conducted between businesses differs from that carried out between a business and its consumers. For business-to-consumer E-Commerce, the Web has become the dominant pipeline. Think Amazon.com The Company offers lots of books for sale on its website. Consumers find what they like, type in their credit card number and unpack the books a few days later. Conducting individual stock trades, moving money from checking to savings or tracking an overnight package delivery via the Internet are other examples. Business-to-business E-Commerce takes many forms, some of which have been around for years. Electronic Data Interchange (EDI) is a format for exchanging business information over private networks. It was created to automate and speed the exchange of information between companies that regularly did business together. EDI is still used, and there are many other mechanisms for business interaction, such as electronic catalogs and electronic payment systems. The Web plays an expanding role just as it does in consumer E-Commerce.

2. ELECTRONIC COMMERCE FRAMEWORK
From the business activity already taking place, it is clear that E-Commerce applications will be built on the existing technology infrastructure a myriad of computers, communications networks, and communication software forming the nascent Information Superhighway a variety of possible E-Commerce applications, including both inter organizational and consumer oriented examples. None of these uses would be possible without each of the building blocks in the infrastructure:

- Common business services, for facilitating the buying and selling process
- Messaging and information distribution, as a means of sending and retrieving information Multimedia content and network publishing, for creating a product and a means to communicate about it
- The Information Superhighway—the very foundation—for providing the highway system along which all E-Commerce must travel the two pillars supporting all E-Commerce- applications and infrastructure are just as indispensable.
- Public policy, to govern such issues as universal access, privacy, and information pricing
- Technical standards, to dictate the nature of information publishing, user interfaces, and transport in the interest of compatibility across the entire network

To better understand the integration of the various infrastructure components in our framework, let us use the analogy of a traditional transportation business. Any successful E-Commerce application will require the I-way infrastructure in the same way that regular commerce needs the interstate highway network to carry goods from point to point. You must travel across this highway, whether you are an organization purchasing supplies or a consumer ordering a movie on demand. Understand, however, that the I-way is not one
monolithic data highway designed according to long-standing, well-defined rules and regulations based on well-known needs. Rather, still under construction, the I-way will be a mesh of interconnected data highways of many forms: telephone wires, cable TV wires, radio-based wireless-cellular and satellite. Far from complete, the I-way is quickly acquiring new on-ramps and even small highway systems. The numerous constructors are either in com- petition with or in alliance with one another, all in an effort to convince traffic to use their on-ramps or sections of the highway because, like toll ways, revenues in E- Commerce are based on vehicular traffic, in our case, vehicles transporting information or multimedia content. The myriad transactions among businesses means that the ultimate winner must select the technology for the I-way that best matches future business needs.

3. WORKING OF E-COMMERCE:
This has to be the most frequently asked question we get. They know people are buying online and they know they have to accept credit cards if they want to stand a chance in all the internet-based competition. Beyond that realization, most are uncertain as to how it all works. There are actually many ways to do E-Commerce, since E-Commerce means different things to many people. Some people feel that by having just an online order form makes a site an E-Commerce one. This is not the whole picture though. We will explain your options and let you decide what ‘E-Commerce’ means to you and your business.
There are five major components of E-Commerce:
i. The Merchant Account
ii. The Shopping System
iii. The Payment Gateway (for real-time-processing),
iv. The Hosting Service and
v. The Security System.
Before you even start thinking about all the orders that you are going to be bringing in, you need to make some very important decisions up front. You need to decide how you are going to process orders and how you are going to accept payments. There are a variety of ways.

Processing orders.
- Simple non-secure order form sent to your email.
- Secure order form sent to your email.
- Shopping Cart System with database (Recommended)
- Using a 3rd party Shopping Cart Service. (NOT RECOMMENDED)

Accepting Payments
- Checks, COD's and Bank Drafts only. (Don't expect a lot of orders)
- Manual Credit Card processing.
- Real Time Credit Card Authorizations (Recommended)
- Third Party Merchant Account (Shared Account) (NOT RECOMMENDED)

Depending on what you decide, you are going to need different tools to set up your Order Processing and Payment System.

1. The Merchant Account
Any type of real E-Commerce requires a Merchant Account and this really is your first step toward E-Commerce, unless of course you have chosen to go through a 3rd party like RegSoft, PayPal or ClickBank and are willing to give up a rather large portion of your profits. These companies can take up to 15% of your sales to process your orders for you, PayPal being one of the lowest!
Depending on what company you go through, the up-front costs of a merchant account can be hefty for a small business, but the long-term savings can be substantial. I4Market highly recommends Millennium Bank Card systems. The best part about Millennium is it's free to setup. Your cost is just 2.25% of what you sell and 29 cents per transaction with a $10.00 monthly Statement/Customer service fee. You can also obtain a Gateway Account with Authorize.net at the same time for an additional $20.00 per month.
A merchant account comes with a merchant identification number. That is about all it gets you. In order to process transactions manually you'll also need either a POS (Point Of Sale) terminal (the little box that you swipe your credit card through at retail outlets), a Virtual Terminal software that runs on your PC and will dial up the bank via your modem or a credit terminal. Even if you decide to go with Real Time Credit Processing you will still need some type of terminal to process orders that are called-in, faxed in and/or mailed in, also for any returns or credits. Please note: Authorize.net and most other gateway systems usually provide a Web-Based terminal for your use within your account.

2. The Shopping System
If you are selling just one or two items on your site you won't have much need for a shopping cart. A site with a variety of products should use the shopping cart system because it's the easiest way for your customers to shop. The easier it is to shop, the more they will spend, which is exactly the psychology supermarkets use, and exactly how shoppers are similar whether in a supermarket or scanning through your website. So shopping carts are good. But how will they work with your merchant account and the all-important payment system?
If the orders placed on your site are to be processed manually with the customer's credit card as a sale through your PC, Web or POS terminal, then there doesn't have to be any compatibility between your shop-cart and your merchant account. The two will work completely independent of each other, each doing its part of the job but with your help. If, on the
other hand, you would like all of your incoming orders to be automatically processed for you as the customer hits the submit button, you will need "real time processing with a gateway account. By doing this only thing you have to do is fulfill the customer's order.

There are many choices when selecting a Shopping System but some of the most important should be functionality, (does it do what you need it to do), ease of use, and compatibility. Shopping systems like anything else now days can be purchased or leased, and both ways have their advantages and disadvantages. However, i4Market highly recommends purchasing your own to maintain control and your user's financial and order information and your database - Don't trust this to a 3rd party Shop-Cart since all your customers data and your entire product database will reside on their server, not yours!

3. SSL Certificate

I4Market also highly recommends the purchase of an SSL Site Certificate. This Certificate provides security for the credit card information from the user's browser through your website and then into the Gateway. Again you have two choices: 1 - you can use your Hosting Service's SSL certificate (if they provide this service), however the secure address will not be https://www.yourdomain.com but would look more like https://webp1.yourhost.com/your-account-name/. We suggest you purchase a site certificate in order to keep the SSL with-in your domain.

Notice the addition of the "s" on the end of https in the URLs above - this is usually one way to insure the page is secured. The other way is the indication of a Lock in the lower part of your browser which will look something like this For Microsoft Internet Explorer users the lock will be on the lower right side of your browser window and on the lower left side for Netscape users.

A site certificate usually ranges from USD $99.00 to $800.00 depending on the vendor and level of security and must be renewed every year. Certificates can be purchased from companies like GeoTrust, VeriSign and a handful of others. Please note; a Secure Socket Layer (SSL) is not an absolute requirement since everything will work without it, however many people will not purchase from websites that do not have SSL. You also run the risk of data jacking if you do not have a Site Certificate installed; data jacking is when a hacker actually intercepts the data while it is being transferred.

4. Gateway Account

We mentioned the Gateway many times in the above article and here's how it works. Once the user sends his order it is transferred from his machine (or more specifically, his browser) to the Shop-Cart and is protected by the Secure Socket Layer (SSL), the server then hands off the data to the Payment Gateway. Gateways are services like Authorize.net, CyberCash iBill and a host of others and is the actual link between your website and the banking networks. These services usually offer both the Gateway and the Processor. The Gateway is simply the door into the ATM banking network, and the Processor is what actually handles the financial data and must be able to communicate with your Shop-Cart. The processor accepts the data from the shop-cart and brings it in to the ATM network, where it is now just like any other credit card transaction.

Once in the ATM network, it connects to the Customers Credit Card Issuer, it then submits the data and waits for a Yes or No answer as to whether the transaction is approved or declined. After this, the whole process starts again in reverse order to give the user feedback as to the status of their transaction. If the order is accepted, it will then charge the order amount to the customer's account and sends the Gateway an authorization code. The Customers Bank will then settle the remainder of the transaction at a later time when they do their batch settlement processing, this is usually at the end of each business day. But for now, the user has his authorization and you have your order. When the bank performs it settlements, the sale amount will then be deposit into your bank account, minus any fees that that may apply to the sale. For this reason, the funds may not show up in your account for 24 - 48 hours after the actually sale has been completed. All that is required of you, is to fulfill the customer's order.

![Fig. No.2 Payment Diagram](Image)

1. Consumer places an order with the merchant through any number of sales channels: Web Site, Call Center, Retail, Wireless or Broadband.
2. Authorize.Net detects an order has been placed, securely encrypts and forwards the Authorization Request to the Consumer's Credit Card Issuer to verify the consumer's credit card account and funds availability.
3. The Authorization (or Decline) Response is returned via Authorize.Net to the Merchant. Round trip this process averages less than 3 seconds.
4. Upon approval, the Merchant fulfills the consumer's order.
5. Authorize.Net sends the settlement request to the Merchant Account Provider.
6. The Merchant Account Provider deposits transaction funds into the Merchant's account.

4. STEPS OF E-COMMERCE
5. WEB HOSTING ON THE WEB

- The World Wide Web is a massive collection of web sites, all hosted on computers (called web servers) all over the world. The web server (computer) where your website resides is known as the web host. Web hosting companies allow you to upload your website to a server and maintain files for one or more websites to be shared (or dedicated) web server, which the ISP maintains to ensure a constant, fast connection to the Internet.

- Providing space on Internet servers for the storage of World Wide Web sites which can be accessed by others through the network. This service is usually offered by ISPs or web hosting specialists.

- Websites are composed of a multitude of computer files that reside on a server. That server hosts the website.

- An arrangement where you allow an agency to host your website for you on their server for a fee.

- A service that is offered to piggy back a website construction, for those who would like to have a presence on the World Wide Web and do not have their own domain set-up on the Internet. It may display information about their company or organization in the form of Web pages. One does not need a computer or Internet access to be hosted.

- A Web hosting company is a company that specializes in hosting Web sites for other companies on their computers. Typically an ISP also offers Web-hosting services.

- Services that store your information (or website) on a server, allowing it to be accessed by users on the Internet.

- A service enabling a person or company to store web pages on the hosting provider's servers.

- Operating a server for another company or individual. Web pages can also be hosted, stored, and taken care of on a server.

- Internet service providers offer web hosting to customers looking for an Internet presence for their family and small business.

- Web hosting (also known as Web hosting, Web site hosting, and hosting) is the business of housing, serving, and maintaining files for one or more Web site.

- Web hosting is a service that provides Internet users with online systems for storing information, images, video, or any content accessible via the web. Web hosts are companies that provide space on a server they own for use by their clients as well as providing Internet connectivity, typically in a data center. Web hosts can also provide data center space and connectivity to the Internet for servers they do not own to be located in their data center.

6. BENEFITS OF E-COMMERCE

- Expand Geographical Reach

The most apparent benefit of E-Commerce is the ability to acquire customers across the country and around the world.

- Expand Customer Base

By providing your customers another purchase channel, your business can attract and retain customers that may have never purchased from you.

- Increase Visibility

Consumers are increasingly searching for information on the internet prior to making a purchase. Make your business available to them.

- Provide Customers valuable information about your business

Easy to find contact information, store hours, product information, and answers to common questions all add to creating a positive customer experience.

- Never Close

Yes, your customers can purchase products from you at 3:00 AM when you are asleep.

- Build Customer Loyalty

Technology can provide the means to create an effective, automated customer retention program.

- Reduction of Marketing and Advertising Costs

Internet marketing can be highly targeted to your specific customer; it is more effective and provides a higher return on investment than traditional media advertising.

- Collection of Customer Data

E-Commerce by the very nature of the transactions, automatically collects valuable customer data and relates purchases to that customer. You can leverage this information to increase future sales from your customers.

- Another important benefit of E-Commerce is that it is the cheapest means of doing business.

- The day-to-day pressures of the marketplace have played their part in reducing the opportunities for companies to invest in improving their competitive position. A mature
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market, increased competitions have all reduced the amount of money available to invest. If the selling price cannot be increased and the manufactured cost cannot be decreased then the difference can be in the way the business is carried out. E-Commerce has provided the solution by decimating the costs, which are incurred.

- From the buyer’s perspective also E-Commerce offers a lot of tangible advantages.
  - Reduction in buyer’s sorting out time.
  - Better buyer decisions
  - Less time is spent in resolving invoice and order discrepancies.
  - Increased opportunities for buying alternative products.

- The strategic benefit of making a business ‘E-Commerce enabled’, is that it helps reduce the delivery time, labor cost and the cost incurred in the following areas:
  - Document preparation
  - Error detection and correction
  - Reconciliation
  - Mail preparation
  - Telephone calling
  - Data entry
  - Overtime
  - Supervision expenses

- Operational benefits of e commerce include reducing both the time and personnel required to complete business processes, and reducing strain on other resources. It’s because of all these advantages that one can harness the power of E-Commerce and convert a business to E-business by using powerful turnkey E-Commerce solutions made available by E-business solution providers.

CONCLUSIONS

E-Commerce is one of the most important facets of the Internet to have emerged in the recent times. E-commerce or electronic commerce involves carrying out business over the Internet with the assistance of computers, which are linked to each other forming a network. To be specific E-commerce would be buying and selling of goods and services and transfer of funds through digital communications. E-commerce allows people to carry out businesses without the barriers of time or distance. One can log on to the Internet at any point of time, be it day or night and purchase or sell anything one desires at a single click of the mouse. The direct cost-of-sale for an order taken from a web site is lower than through traditional means (retail, paper based), as there is no human interaction during the on-line electronic purchase order process. Also, electronic selling virtually eliminates processing errors, as well as being faster and more convenient for the visitor. E-commerce is ideal for niche products. Customers for such products are usually few. But in the vast market place i.e. the Internet, even niche products could generate viable volumes.

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