Chapter 8

PROBLEMS & PROSPECTS OF E-COMMERCE
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Here are some benefits about establishing a presence on the WWW.

Presence:

It has been estimated that the world-wide E-Commerce market will exceed $46 billion in consumer transactions by the year 2001 (courtesy IDC) and 15% of all WWW users have used it to purchase a product or service online (courtesy CommerceNet/Nielsen Media). Regardless of what the business, one cannot ignore such a large group. To be a part of that community and show that you are interested in serving them, you need to be on the WWW for them. See Figure 1 for statistics of some market predictions.

Establishing a presence in any market place is essential to the success of your business. In creating this presence, there is some basic information that you want to advertise such as what you do and
how can someone contact you. Many businesses convey basic
information through business cards and brochures. However, unlike
the limitation of business cards and brochures, a WWW site contains
more detailed information and can be updated at any moment.

Some businesses get their local newspapers to write their
opening and/or new promotion. Unfortunately, people in distant
geographical locations may not read about it. With a WWW site,
anybody anywhere who can access to the Internet is a potential visitor
to your WWW site, and thus a potential customer.

**Timelessness :**

The WWW provides businesses the opportunity to open
international markets, to network, to sell products and services and
the ability to do all these anytime. We are not all on the same time
zone and schedule. For example, your business may be world-wide
but your office hours are not. But a WWW site can serve your clients,
customers and partners 24 hours a day, 7 days a week.

**Communication and Networking :**

One of the important aspects of business is making
connections with other people or networking. For instance, passing
out your business card is a courtesy of every good meeting and such
meetings can turn into prospects. With the WWW, you can pass out
more than your business card to millions world-wide. People can reach
you on the WWW anytime, inexpensively and simply.
Information:

One example of basic business information is a Yellow Pages advertisement: what a company does, its office hours, contact information, location, its methods of payment, and so on. With the WWW, one can have a Yellow Pages advertisement with instant communication. Unlike paper-base advertisement, the WWW also allows one to add multimedia information - sound, pictures and movies - to one's company's information to serve your potential customers.

Time-Sensitive Information:

Companies often have time-sensitive information: the daily bulletin, quarterly earnings statement, the press kit for the much anticipated film, the merger news. Apart from the anticipation, this can prove to be costly if information changes before it gets off the press. Electronic publishing changes with your needs. The information can be made available any time you specify, with all related materials released at exactly the same time. You can even attach your WWW site to a legacy database which can be customized anytime to yield most up-to-date information.

Services:

Making business information available is one of the most important ways to serve your customers.

Customer Feedback:

With a WWW site, you can ask for feedback and get it instantaneously with no extra cost. For example, an e-mail response
can be built into WWW documents and can get the answer while its fresh in your customers mind, without the cost and lack of response of business reply mail. It is known that a satisfied customer is a return customer.

**Customer Service:**

Once you have established your presence, you can use your WWW site for customer service. There are often various repeatitious questions asked and answered on the phone as a part of your customer service. These are the questions, customers and potential customers want to know the answer to, before they deal with you. By posting them on a WWW site, say in form of an FAQ, you can save your business and customers both time and money. You can also set-up an after-sale service that can serve as a 24 hour help desk for your old and new customers. Your customers can access your WWW site to get the information they want without leaving the comfort of their home. Figure 2 shows that more than 75% of users find Internet shopping convenient.
Sales:

Before people decide to become customers, they want to know about you, what you do and what you can do for them. This you can do easily and inexpensively on the WWW.

In the year 2000, two hundred million consumers are projected to have Internet access. This explains why businesses are moving to the Internet at such an incredible pace. Also, WWW-based sales of products and services are expected to account for $1.5 trillion world-wide through the year 2002, according to 1997 Real Numbers Behind Net Profits report by ActivMedia Inc., an Internet commerce market research company.
**To Stay in Contact with Sales Personnel**

Your employees who need to travel and are away from the office frequently may need up-to-the-minute information that will help them make the sale or pull together the deal. If you know what that information is, you can keep it posted in complete privacy on the WWW which can be accessed by them remotely. A quick local phone call or fax can keep your staff supplied with the most detailed information, without long distance bills and tying up the staff at the home office.

**Marketing:**

*Test Markets and New Products:*

With the WWW, your customers will let you know what they think of your product faster, easier and much less expensively than any other market you may reach. For a minimal cost on the WWW, you can predict where to position your product or service in the marketplace. These postings can bring you international business, whether it is part of your plan or not, which can help you market yourself accordingly.

*To Reach a Highly Desirable Demographic Market:*

The demographic of the WWW user is probably the highest mass-market demographic available and will likely remain high for many years to come. Figure 3a and Figure 3b represent the age distributions of users corresponding to location and gender from the GVU Center’s 10th WWW User Survey (October 1998).
It can be concluded from these graphs that most of the Internet users, whether male or female, are between the ages 20-40, irrespective of where they come from around the world. Such information, when supplemented with other statistics, can be quite useful in steering your global marketing strategy in the appropriate direction.

**Global Marketing:**

You may not be able to make sense of the mail, phone and regulation systems in all your potential international markets, but with a WWW site, you can open up a dialogue with international markets as easily as with the company across the street. In fact, before you go onto the WWW, you should decide how you want to handle the international business that will come your way, because your postings are certain to bring international opportunities your way, whether it is part of your plan or not. Another added benefit is that if your company has offices overseas, they can access the home offices information for the price of a local phone call. Furthermore, you can find markets for your products that could never reach you before at a reasonable cost.

**Advertising:**

Wherever there are audiences, there will be advertisers.

Michael Schrage

Every kind of business needs the exposure that the media can bring. It is estimated that 75% of WWW sites are sponsored by
advertising, while only 25% are supported by customers. With more than 50 million users world-wide, the Internet has become a scrumptious market for advertisers. Your WWW site gives you the opportunity to heighten public interest with more information than any paper-based brochure can, using a variety of interactive multimedia which is also affordable.

Concerns:

This section is concerned with the issues of the barriers to E-Commerce. Our purpose here is to point these out and make appropriate suggestions wherever possible. Some such issues stem

![Most Important Issue Facing the Internet graph]

*Source: GVU’s 10th WWW User Survey (October 1998)*

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According to a study conducted recently by CommerceNet, many customers don’t trust E-Commerce, they can’t find what they’re looking for, and there’s no easy way to pay for things. Customers are worried about credit card theft, the privacy of their personal information and unacceptable network performance. The statistics in Figure 5 reflect a variety of such problems.

Privacy:

According to the GVU Center’s 10th WWW User Survey (October 1998), privacy is currently the most important issue facing Internet users (Figure 4) and a major reason for people not purchasing (Figure 5)

Source: GVU’s 10th WWW User Survey (October 1998)
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Bars show % of Cases > 0
Privacy and Server Logs:

Most servers log every access. The log usually includes the IP address and/or host name, the time of the download, the user's name, the URL requested, the status of the request, and the size of the data transmitted. Some sites may leave the logs open for casual viewing by local users at the site or even use them to create mailing lists. Some browsers also provide the client used by the reader, the URL that the client came from, and the user's e-mail address. Revealing any of these data could be potentially damaging to a user.

Proxy servers used for access to WWW services outside an organization's firewall are in a particularly sensitive position. A proxy server will log every access to the outside WWW made by every member of the organization and track both the IP number of the host making the request and the requested URL. A carelessly managed proxy server can therefore represent a significant invasion of privacy.

Privacy and Use of Cookies:

A "cookie" is a mechanism to make up for the stateless nature of the HTTP protocol. A cookie is a small piece of information, often no more than a short session identifier, that the HTTP server sends to the browser when the browser connects for the first time. Thereafter, the browser returns a copy of the cookie to the server each time it connects. Typically the server uses the cookie to remember the user and to maintain the illusion of a "session" that spans multiple pages.
Cookies cannot be used to "steal" information about you or your computer system. They can only be used to store information that you have provided at some point. However, cookies can be used for more controversial purposes. Each access your browser makes to a WWW site leaves some information about you behind. Among that data are the name and IP address of your computer, the flavour of browser you are using, the operating system you’re running, the URL of the WWW page you accessed, and the URL of the page you were last viewing.

**Global Efforts to Ensure Privacy and Gain Trust:**

Recently, many companies have made their privacy policies explicit to gain customer confidence. For example, public accounting profession has developed the WebTrust Principles and Criteria and the related WebTrust seal of assurance to assist entities and their customers in assessing the risks of doing business electronically. Another is the TRUSTe "trustmark" program, an online branded seal that takes users directly to the privacy statement of a company that has joined a program. The trustmark is awarded only to sites that adhere to the privacy principles established by TRUSTe and agree to comply with ongoing TRUSTe oversight and resolution process.

**Security**

According to the GVU Center's 10th WWW User Survey (October 1998), security in E-Commerce is considered to be a major
factor in online business (Figure 6a) and a reason of significant
concern (Figure 6b) for Internet users. It is a primary reason for people
not purchasing (Figure 5).

Source: GVU's 10th WWW User Survey (October 1998)
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Security a Factor in Online Business

Source: GVU's 10th WWW User Survey (October 1998)
Copyright 1998 GTRC

How Concerned about Security for ECommerce
Transactions Security:

E-Commerce security is more than simply encrypting the transactions. Businesses must also ensure that sensitive customer information, such as credit card numbers, cannot be abused by employees and should not store unencrypted credit card information on the system’s hard drive, nor should that information ever be stored in cookies. Remote users should not be asked to submit their credit card number in a fill-out form field unless you are using an encrypting server/browser combination. Even with an encrypting server, you should be careful about what happens to the credit card number after it's received by the server. Some types of transactions, especially credit-card purchases, may require that you assure the security of the transaction itself. There are schemes such as First Virtual Accounts, Digicash, and SET, that have been developed to process commercial transactions over the WWW without transmitting credit card numbers or other confidential information.

Competition:

To convince consumers, e-merchants will have to do a lot of educating. If WWW pages were labeled with tags giving product and pricing information, it would be easier for search engines to find products to buy online. This hasn’t happened yet because merchants want people to find their products but not their competitors’, especially if another company’s products are cheaper.
Searching:

It seems that searching for useful information about a certain product/service is still a hindrance (Figure 8) and can be a factor in people not purchasing (Figure 5). According to the GVU Center’s 8th WWW User Survey (October, 1997), 40% of the users spent 5 to 15 minutes searching before they start finding useful information. There was also a low success rate (49%) when looking for relevant information. This situation has slightly improved over the year, according to GVU Center’s 10th WWW User Survey (October 1998), where 38% of the users spent 5 to 10 minutes searching before they start finding useful information and the success rate has gone up (75%) for 60% of the users.
Searching on the WWW, unfortunately, is still an art - one gets better with experience. There is a need for specialized search engines.

Source: GVU’s 10th WWW User Survey (October 1998)  
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Efficiency:

According to the GVU Center’s 10th WWW User Survey (October 1998), speed is the second most important issue facing Internet users (Figure 4) and a major problem using the WWW (Figure 8). Many users of the Internet are still on a 28.8 or 33.6 KB modem connection. Then how fast is the access becomes a major concern. Figure 9 represents statistics of connection speeds. It is therefore important that the WWW sites offering E-Commerce are engineered in a way to accommodate this limitation

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E-Commerce (Business-To-Business):

According to recent projections by industry analysts, Business-to-Business E-Commerce may exceed $176 billion in business transactions by the year 2001 (courtesy IDC). See Figure 1 for statistics of some market predictions.

Business-to-business concept has many similarities to business-to-consumer genre. They both take advantage of similar Internet technologies. Thus, many of the above prospects and concerns that take place in the Business-to-Consumer arena also apply to the case of Business-to-Business.
However, there are some significant differences. The major difference is that Business-to-Business electronic data must be integrated with both companies accounting systems. In effect, the purchasing company's accounting system must interact with the supplier's own system. While most of the Business-to-Consumer transaction takes place on the Internet, business-to-business transactions are usually done over an extranet on a Value Added Network (VAN).

In the next sections, we will be looking at prospects and concerns dealing with Business-to-Business.

**Prospects:**

There are many significant benefits of business-to-business E-Commerce.

**Cost Reduction:**

The basic benefit of a close Business-to-Business relationship is improved profits through lowering costs and reducing inventories. This is achieved since little or no human intervention is needed. In the past, only large companies could afford using EDI software since these companies would have to send data electronically over private VANs. Without such integration of E-Commerce data and accounting software, all orders received from the Internet would have to be manually keyed into the company accounting system, which is impractical and very costly for a company with any significant sales volume.
Several software companies are developing products to make EDI more user friendly and affordable for small to medium size companies.

The use of a public network-based infrastructure like the Internet can "level the playing field" for small and large businesses. This allows companies of all sizes to extend their reach to a broad customer base.

**Timelessness:**

Once a business has established an E-Commerce relationship with another business, it can interact 24 hours a day, 7 days a week. An interesting aspect of this is that all the order processing is done with minimal human intervention.

**Inventory Control:**

Inventory control can be fully automated once the buyer and supplier have been set-up with the proper EDI software. As soon as the quantity of product goes down to a certain level, the ordering of that product is done automatically on the internet without major human intervention.

**Concerns:**

**Security:**

Large scale business-to-business E-Commerce will not take place until it can be accomplished securely over the Internet with software products that work together. Like business-to-customer, security is an important issue. Companies need to be sure that the data they are sending over an open network is only being seen by the
attended receiver. Once these concerns have been eliminated, companies will no longer need the costly private VANs.

**Lack of Interoperability:**

Companies have problems sharing the orders and information collected on the WWW with the rest of their business applications. This is due to differences in technologies deployed in different companies, and resulting lack of interoperability.

A major concern is EDI software incompatibility. If your company wants to establish a Business-to-Business relationship with another company, then both companies must run the same software. This is a big problem, since a company might have to buy two or more different EDI software products to do business with other companies. This problem has prompted CommerceNet to sponsor a pilot project to test the interoperability of EDI and messaging software using standards proposed by the Internet Engineering Task Force (IETF) for EDI over the Internet.

WWW technology will eventually replace the existing EDI translators that are extremely complex and difficult to maintain. This will open the doorway to widespread small company use of the E-Commerce. Many accounting packages have enforced EDI capability and those that do not will have to provide an interface with EDI to remain competitive in the business-to-business E-Commerce area.
Lack of Models:

Companies usually do not make their internal strategies related to, for example, an intranet or extranet deployment, available to public and/or other companies. Therefore, for Business-to-Business E-Commerce, companies do not always have good models for setting up their E-Commerce sites.