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2000

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### Recommended Citation

Iyer, Lakshmi S.; Gupta, Babita; and Forough, Abbas, "An Overview of Commercial Web Site Developmental Issues" (2000). *AMCIS 2000 Proceedings*. 153.

<http://aisel.aisnet.org/amcis2000/153>

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# An Overview of Commercial Web Site Development Issues

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## Abstract

As technology has advanced, the Internet has become a gold mine for those who have the vision, talent and expertise to exploit unbounded potential for business-to-business and business-to-consumer e-commerce. Good websites not only attract, inform and sell to customers during the first visit but also increases the potential for return visits and sales. This has important implications for companies contemplating web presence and presents them with some very pertinent issues to keep in mind when designing their web sites. This paper discusses some of the current issues and factors that affect commercial web site designs.

## Introduction

Internet technology provides unprecedented gains, efficiencies, and insights for businesses with the foresight to develop effective information delivery architectures. The commercial web site is a cost efficient, highly accessible medium for sales, marketing, branding and streamlining business processes. As technology continues to advance, Internet sites offer more and more functionality for business needs. Amazon.com, Dell, E\*Trade and Yahoo! are commonly referred to as examples of companies that took advantage of the Internet medium early and have since become its leaders (Margherio, 1997).

Basically, a web site needs to inform, persuade, be visually appealing and easy to navigate. However, many factors go into the design of a business web presence. As the number of businesses online and shopping alternatives continues to grow, navigating the Internet becomes complicated. For the average user, online shopping and Internet browsing can be overwhelming because of the sheer number of available options. This presents companies with very crucial issues to keep in mind when designing their web sites. This paper discusses some of the current issues and factors that affect commercial web site design.

## Issues in Web Design

Four main categories of factors impact the development of a commercial web site (Summer, 2000; Kalkota and Robinson, 1999; Flanders and Willis, 1998).

Table 1 summarizes the four main categories and the major elements under each one.

Table 1: Summary of web design issues

Main issues	Desired features
Usability	<ul style="list-style-type: none"><li>• Targeting audience</li><li>• Good navigation</li><li>• Content</li><li>• Location transparency</li><li>• Positive user experience</li></ul>
Business Goals	<ul style="list-style-type: none"><li>• Growth potential</li><li>• Market expansion</li><li>• ROI</li><li>• Economic benefits</li><li>• Good customer service</li></ul>
Technology	<ul style="list-style-type: none"><li>• Security and reliability needs</li><li>• Bandwidth needs</li><li>• Database needs</li><li>• Software and hardware needs</li><li>• Scalability</li><li>• Costs</li></ul>
Marketing and Brand Positioning	<ul style="list-style-type: none"><li>• Customer brand awareness</li><li>• Defined categories of sites</li></ul>

### 1. Usability

The concept of web site “usability” is probably one of the most important issues web developers need to address. A web site should be designed with the type of user or customer an organization caters to in mind. Many businesses spend a great deal of time and money trying to figure out who their customers or audiences are, but ignore the obvious question: What is the target audience looking for in a business (Flanders and Willis, 1998)? Focusing on this question enables web developers to anticipate the needs and goals of their customers. It also helps to define the e-commerce tools and solutions the company will need to make the web site a sales tool.

Company web sites continue to grow, and it is not uncommon for a large commercial site to contain over 500 web pages. Navigating this amount of information for a single product or page can be a nightmare. Therefore, much thought and analysis need to go into the design of a site’s structure and navigation tools. Menus, links, and simple site layouts help the target audience find what they

want quickly. Location transparency is also an important issue. Users should never have to know the location of a resource in order to access it. To facilitate intuitive navigation, web pages on a site are often broken down into three main groupings--home page, main topic page, and subsidiary pages (Flanders and Willis, 1998). A home page, the front page or gateway into the site, should convey to the visitor the site's purpose (the who, what, when, where and why), the kind of content included in the site, and how to find that content (Flanders and Willis, 1998). The main topic pages introduce specific business topics or links related to the content on the site. Any other page can be considered a subsidiary page.

The more useful content a site contains, the more reason customers have to stay. Updating and continually adding content to the site is also vital. A business must ask itself, "Why would anyone want to visit this site a third, fourth or fifth time?" Content may mean different things to different businesses as well. IBM may offer product descriptions, special offers, white papers, company history and stock information for investors. Comedy Central may have show times, prizes, jokes, pictures and live chats. The business and its users define the site's contents, but it is always the most important thing the site can offer.

Developers want to create a powerful user experience that will not only draw people to their site, but also keep them coming back often. A powerful user experience combines several objectives into a seamless interactive experience: the personality of the brand, the purpose of the interaction, the ease of understanding, and the speed of the results (USWEB/CKS(3), 1999). A noticeable lack of any of these three elements will diminish the usability and effectiveness of the site.

## 2. Business Goals

Electronic commerce over the Internet can either be complementary to an existing business or an entire new business in itself. In any case, a business has to answer e-commerce business goals such as:

- What portion of the business will e-commerce represent in 12 months? Two years? Five years?
- What volume of business does the company expect over the next five years?
- What level of return on investment does the company expect?
- How will ROI be measured?
- What cost savings will the company realize through e-commerce?
- Will online sales reduce the sales volumes in existing channels? If so, what will be the impact on each channel?

Web site design and support infrastructure must be able to support growth effortlessly over time. Otherwise, the company stands to lose valuable time and money re-

engineering the site after a few months or years (USWEB/CKS(2), 1999).

As more and more companies establish an e-commerce presence, it is also becoming clearer that customer service quality will provide a key differentiation among e-commerce companies. Companies are beginning to realize the need to shift the customer service paradigm to the Internet to keep up with evolution of new breed of customers. This more demanding and informed customer expects a company with a web site to "interact" with them, provide them with quick and customized answers to their ad-hoc queries and an interactive e-commerce experience (Gupta and Iyer 2000). Businesses can now give customers nearly the same level of service online that they can in person. Technology now allows personalized interactions with customers, which helps build loyalty (Ghosh, 1998).

Businesses in virtually every sector of the economy are using the Internet to cut the cost of purchasing, manage supplier relationships, streamline logistics and inventory, plan production and reach new and existing customers more effectively (Margherio, 1997). However, many of these companies do not have a business plan in place for their e-commerce initiatives. Companies need to forecast the size of their e-commerce market, recognize their online competition and figure out what functionalities their customers need from their web site. All of this needs to be done in the development phase.

## 3. Technology

The sophistication of today's e-commerce technologies must be balanced with intuitive, easy-to-use front-ends for users. Although the average user is growing more techno-savvy, companies must always appeal to the lowest common denominator. The use of cutting-edge technology drives the profitability of e-commerce. However, the speed at which the technology is advancing means that web developers have to design for change.

In addition, the design of the information delivery architecture must be scalable and congruent with the capabilities of the business planning to implement it. Web developers should consider existing organizational assets the business may have, taking advantage of prior back-end investments that take time to duplicate; special relationships (i.e., sponsorships); special information resources (i.e., an archive); established brand or image; and proprietary intellectual/artistic capital (i.e., a Monet painting) prior to designing a web presence for a business (Watson, *et al.*, 2000).

Web developers should also keep in mind the business's needs in several areas:

### *i. Security and reliability needs*

The web site has to protect its user's information with state-of-the-art security (USWEB/CKS(4), 1999). The web site must provide robust services and functionality and be available 24 hours a day, 7 days a week.

### ii. Bandwidth needs

The web site should allow users to access the resources and information they need quickly, without delays caused by lack of bandwidth. If an outside company does not host the site, a dedicated server with a high-bandwidth connection is important.

### iii. Database needs

Customer data management is extremely valuable to a business, allowing them to customize and personalize the buying experience by showing items based on the customer profile.

### iv. Software and Hardware

Will the business need an out-of-the-box solution or an e-commerce toolkit that is more customizable or will it develop the system on its own? The choice depends on the business and its current information architecture and hardware devices. Some of the options are: Online malls, Toolkits, Custom-built solutions, and Packaged software solutions.

### iv. Scalability

As discussed above, the site must be designed with the knowledge that it will be upgraded and rehailed many times over its lifetime. Site developers must recognize that, if popular enough, a site can go from receiving 40-50 hits per day to thousands per day in a matter of weeks.

### vi. Costs:

Although site development may appear costly on the surface, Internet is the cheapest means of communicating with customers ahead of direct mail and telemarketing. And the benefits of a commercial web site continue to increase as technology moves ahead.

## 4. Marketing and Brand Positioning

Product branding is important in attracting customers and creating loyalty among old customers. The Web allows customers to interact more intimately with brands than any other media. Consistency of message and stream of images enhance the branding process. A growing trend is for sites to be developed according to certain themes and strategies, which use metaphors to categorize different types of sites. They include the entertainment park, the archive, the town hall, the club, the gift shop, the freeway intersection or portal, and the customer service center (Watson, Berthon, Pitt and Zinkhan, 2000). Each of these categories offers web site developers ideas and options as to what format may benefit their own site.

## Conclusion

E-commerce not only presents a very viable business opportunity, but also presents a threat to businesses that do not get involved early on. Launching a successful e-commerce presence requires careful planning, structured skills in many different disciplines and excellent business forecasting.

Most of the issues and choices discussed above should be familiar to many organizations looking to implement an e-commerce business solution. US companies need to fully develop e-commerce strategies and join the Internet revolution. The successful use of e-commerce sites by many companies provides a roadmap which others can use to become part of the growing world of e-commerce.

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