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Conversation

Commercial Scenarios for the Web: Opportunities and Challenges

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Abstract

The potential of the World Wide Web on the Internet as a commercial medium and market has been widely documented in a variety of media. However, a critical examination of its commercial development has received little attention. Therefore, in this paper we propose a structural framework for examining the explosion in commercial activity on the Web. First, we explore the role of the Web as a distribution channel and a medium for marketing communications. Second, we examine the factors that have led to the development of the Web as a commercial medium, evaluating the benefits it provides to both consumers and firms and its attractive size and demographic characteristics. Third, we discuss the barriers to commercial growth of the Web from both the supply and demand side perspectives. This analysis leads to a new classification of commercialization efforts that categorizes commercial Web sites into six distinct types including 1) [Online Storefront](#), 2) [Internet Presence](#), 3) [Content](#), 4) [Mall](#), 5) [Incentive Site](#), and, 6) [Search Agent](#). The first three comprise the "Integrated Destination Site," and the latter three represent forms of "Web Traffic Control." Our framework, argued in the context of integrated

marketing, facilitates greater understanding of the Web as a commercial medium, and allows examination of commercial Web sites in terms of the opportunities and challenges firms face in the rush towards commercialization.

Introduction

The tremendous growth of the Internet, and particularly the World Wide Web, has led to a critical mass of consumers and firms participating in a global online marketplace. The rapid adoption of the Internet as a commercial medium has caused firms to experiment with innovative ways of marketing to consumers in computer-mediated environments. These developments on the Internet are expanding beyond the utilization of the Internet as a communication medium to an important view of the Internet as a new market (Ricciuti, 1995).

The Internet is a massive global network of interconnected packet-switched computer networks. [Krol and Hoffman](#) (1993) offer three (mutually consistent) definitions of the Internet : "1) a network of networks based on the TCP/IP protocols; 2) a community of people who use and develop those networks; [and a] 3) collection of resources that can be reached from those networks". Note that there is no agreed-upon definition because the Internet is at once a set of common protocols, a physical collection of routers and circuits, distributed resources, and even a culture of connectivity and communications.

The most exciting commercial developments are occurring on that portion of the Internet known as the World Wide Web (WWW). The WWW is a distributed hypermedia environment within the Internet which was originally developed by the European Particle Physics Laboratory (CERN). Global hypermedia allows multimedia information to be located on a network of servers around the world which are interconnected, allowing one to travel through the information by clicking on hyperlinks. Any hyperlink (text, icon or image in a document) can point to any document anywhere on the Internet. The user-friendly consumer-oriented homepages of the WWW utilize the system of hyperlinks to simplify the task of navigating among the offerings on the Internet. The present popularity of the WWW as a commercial medium (in contrast to other networks on the Internet) is due to its ability to facilitate global sharing of information and resources, and its potential to provide an efficient channel for advertising, marketing, and even direct distribution of certain goods and information services.

The World Wide Web as an Efficient Channel

Anecdotal evidence suggests that Web-based commercial efforts are more efficient and possibly even more effective than efforts mounted in traditional channels. Initial conjectures on efficiencies generated by online commercial efforts suggests that marketing on the Web results in "10 times as many units [sold] with 1/10 the advertising budget" (Potter, 1994). It is about one-fourth less costly to perform direct marketing through the Net than through conventional channels (Verity & Hof, 1994). This fact becomes especially critical in the face of shrinking technology and product life cycles and increasing technological complexity (IITA, 1994). Consider the example of [SunSolve Online](#) , which has saved Sun Microsystems over \$4 million in FAQs alone since they "reengineered information processes around the WWW" (Neece, 1995).

The Web as an Active Model of Marketing Communications

Firms use various media to communicate with their current and potential customers. Marketing communications perform three functions: to inform, to remind, and to persuade (Anderson and Rubin, 1986). The traditional one-to-many marketing communications model for mass media is shown below in

Figure 1. In this passive model, firms (denoted by F) provide content through a medium to a mass market of consumers (denoted by C). The first two functions of marketing communications may be performed by a traditional communication model. However, the persuasion function necessary for differentiating a product or brand is limited by the unidirectionality of traditional mass media.

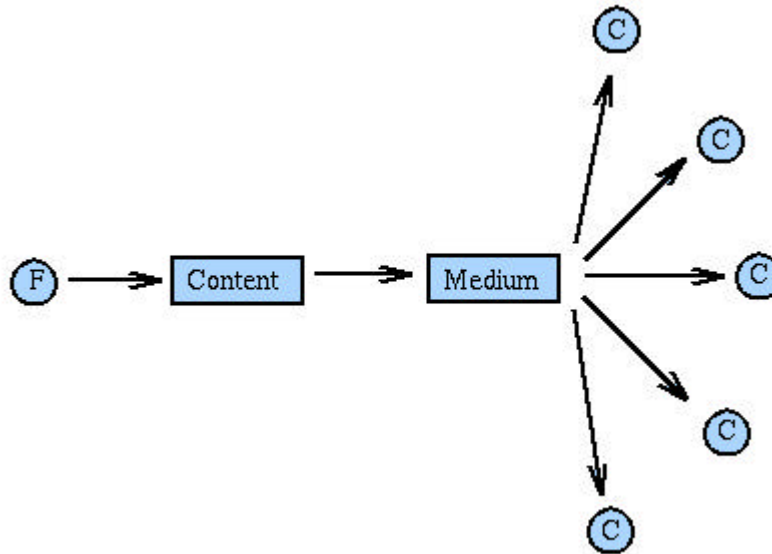


Figure 1.
Traditional Mass Media Model of One-to- Many Marketing Communications

The Internet, a revolution in distributed computing and *interactive* multimedia many-to-many communication, is dramatically altering this traditional view of communication media. As Figure 2 indicates, the new many-to-many marketing communications model defining the Web offers a radical departure from traditional marketing environments ([Hoffman & Novak, 1995](#)).

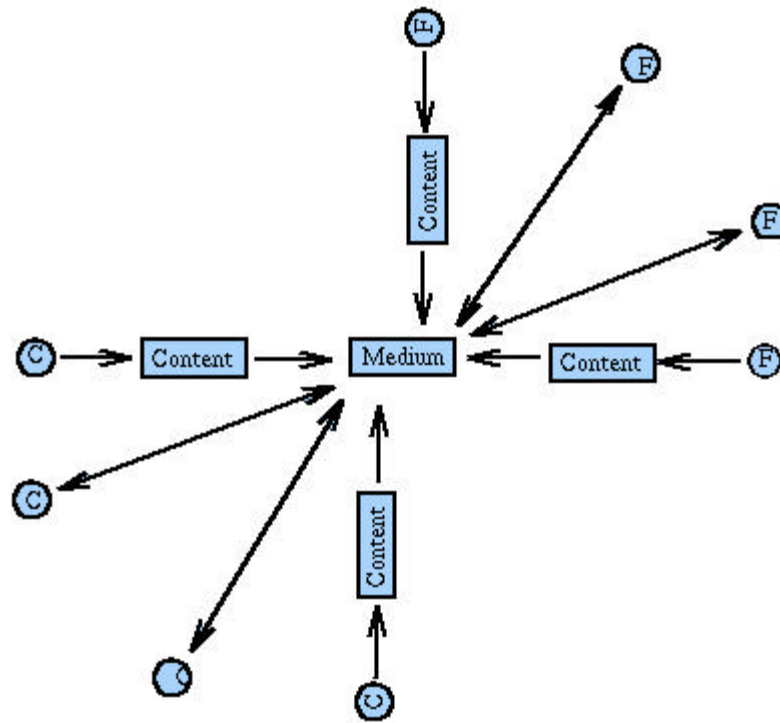


Figure 2.
New Model of Marketing Communications for the Web

Figure 2 suggests that the Internet offers an alternative to mass media communication. Some applications on the Internet (e.g., personal homepages) represent "narrowcasting" to the extreme, with content created by consumers and for consumers. As a marketing and advertising medium, the Web has the potential to change radically the way firms do business with their customers by blending together publishing, real-time communication broadcast and narrowcast. As an operational model of distributed computing, the "Net" supports:

- Discussion groups (e.g., USENET news, moderated and unmoderated mailing lists),
- Multi-player games and communications systems (e.g., MUDs, irc, chat, MUSEs),
- File transfer (ftp) and remote login (telnet),
- Electronic mail ("email"), and
- Global information access and retrieval systems (e.g., archie, veronica, gopher, and the World Wide Web).

From a business and marketing perspective, the most exciting developments are occurring on that portion of the Internet known as the World Wide Web. In this paper, we present an initial attempt to organize the commercial activity on the Web thus far according to its business function. We identify two major categories of sites: "Destination Sites," and "Web Traffic Control Sites." Under destination sites, we identify Online Storefronts, Internet Presence Sites, and Content Sites. These comprise the ultimate "destinations" housing a firm's virtual counterpart. The purpose of the Web Traffic Control Sites is to direct consumers to these various Destination Sites. There are three major categories of Web Traffic Control: Malls, Incentive Sites, and Search Agents. We argue for considering our framework in the context of "integrated marketing," in which various communications vehicles are coordinated to create a single, strategically appropriate marketing effort to maximize customer response (Schultz, Tannenbaum, & Lauterborn, 1992; Tynan, 1994).

The Web as a Commercial Medium

As a commercial medium, the Web offers a number of important benefits which can be examined at both the customer and firm levels. In this way, we can address both demand and supply issues. We discuss the buyer benefits first, followed by the firm benefits. Buyer benefits arise primarily from the structural characteristics of the medium and include availability of information, provision of search mechanisms, and online product trial, all of which can lead to reduced uncertainty in the purchase decision. Firm benefits arise from the potential of the Web as a distribution channel, a medium for marketing communications, and a market in and of itself. These efficiencies are associated with Web technology and the interactive nature of the medium.

Consumer Benefits

One important consumer benefit associated with marketing on the Web is the access to greater amounts of dynamic information to support queries for consumer decision making. The Hermes survey of Web users found gathering purchase-related information was the most preferred Web activity ([Gupta, 1995](#)). Further, the interactive nature of the Web and the hypertext environment allow for deep, nonlinear searches initiated and controlled by customers. Hence marketing communications on the Web are more consumer-driven than those provided by traditional media. In addition, recreational uses of the medium, manifested in the form of nondirected search behavior, can be an important benefit to consumers intrinsically motivated to use the medium ([Hoffman & Novak, 1995](#)).

The ability of the Web to amass, analyze, and control large quantities of specialized data can enable comparison shopping and speed the process of finding items (Wallace, 1995). The Web facilitates trial (AA, 1995) and provides instant gratification; customers can test products online which may stimulate purchase (e.g., [Mathsoft browser](#), [Dec Alpha AXP](#)). There is also the potential of wider availability of hard-to-find products and wider selection of items due to the width and efficiency of the channel.

In addition to the above, the advantages for industrial consumers are reduced costs to buyers from increased competition in procurement as more suppliers are able to compete in an electronically open marketplace. This increase in competition leads to better quality and variety of goods through expanded markets and the ability to produce customized goods (IITA, 1994).

Benefits to the Firm

Distribution

Firm benefits arise partly from the use of the Web as a distribution channel. First, the Web potentially offers certain classes of providers participation in a market in which distribution costs or cost-of-sales shrink to zero. This is most likely for firms in publishing, information services or digital product categories (Jones, 1995). For example, digital products can be delivered immediately, hence such businesses may encounter massive disintermediation or even the eventual elimination of middleman (Michalski, 1995). Moreover buyers and sellers can access and contact each other directly, potentially eliminating some of the marketing cost and constraints imposed by such interactions in the terrestrial world. This may also have the effect of shrinking the channel and making distribution much more efficient (mainly due to reduced overhead costs through such outcomes as uniformity, automation, and large-scale integration of management processes). Time to complete business transactions may be reduced as well, translating into additional efficiencies for the firm. However, such potential efficiencies must be tempered with market realities ([Kline, 1995](#)).

Second, business on the Web transfers more of the selling function to the customer, through online ordering and the use of fill-out forms (Michalski, 1995), thus helping to bring transactions to a conclusion. This permits a third benefit in the form of capture of customer information. The technology offers the firm the opportunity to gather market intelligence and monitor consumer choices through customers' revealed preferences in navigational and purchasing behavior in the Web. Note however that there are many social, legal and technological issues and drawbacks at the present level of technology which prevent firms from fully capitalizing on this benefit (see, for example, Caruso, 1995).

Marketing Communications

At the present time, most firms use the Web primarily to deliver information about the firm and its offerings and for both internal and external communication (Magid, 1995; Sharples, 1995) with other firms and consumers. The interactive nature of the medium (see [Hoffman & Novak, 1995](#) for discussion) offers another category of firm benefits since it is especially conducive to developing customer relationships. This potential for customer interaction, which is largely asynchronous under current implementations, facilitates relationship marketing and customer support (Cuneo, 1995) to a greater degree than ever before possible with traditional media.

Web sites are available on demand to consumers 24 hours a day. The interactive nature of the medium can be used by marketers to hold the attention of the consumer by engaging the consumer in an asynchronous "dialogue" that occurs at both parties' convenience. This capability of the medium offers unprecedented opportunities to tailor communications precisely to individual customers, allowing individual consumers to request as much information as desired. Further, it allows the marketer to obtain relevant information from customers for the purpose of serving them more effectively in the future.

The simplest implementations involve engaging customers through the use of email buttons located strategically on the site. More sophisticated implementations may involve fill-out forms and other incentives designed to engage customers in ongoing relationships with the firm. The objective of such continuous relationship-building is dual-pronged: to give consumers information about the firm and its offerings and to receive information from consumers about their needs with respect to such offerings. Hence, effective customized advertising, promotion and customer service (Berniker, 1995) is the fifth benefit that the commercial Web offers to the firm.

Most importantly, the Web offers opportunity for competition on the "specialty" axis instead of the price axis. From a marketing perspective, it is rarely desirable to compete solely on the basis of price. Instead, marketers attempt to satisfy needs on the basis of benefits sought (TK), which means pricing is dependent upon value to the consumer, not costs. Such opportunity arises when the offering is differentiated by elements of the marketing mix other than price. This results in the delivery of value-laden benefits, for example, convenience through direct electronic distribution of software, or enjoyment through a visually-appealing and unusual Web site. As evidence that this is occurring, consumers indicated that price was the least important product attribute considered when making online purchases ([Gupta, 1995](#)). The ability to compete on dimensions other than price will become especially critical in categories where brands are perceived as substitutes, since it allows for more opportunities to differentiate along other dimensions.

Operational Benefits

Operational benefits of Web use for industrial sellers are reduced errors, time, and overhead costs in information processing; reduced costs to suppliers by electronically accessing on-line databases of bid

opportunities, online abilities to submit bids, and online review of awards. In addition, creation of new markets and segments (Schrage, 1995), increased generation of sales leads (Krumenaker, 1995), easier entry into new markets (especially geographically remote markets) and faster time to market is facilitated (Wilder, 1995). This is due to the ability to reach potential customers easily and cheaply and eliminate delays between the different steps of the business subprocesses (IITA, 1994).

Size and Growth of the Internet and the World Wide Web

Internet Hosts

A main reason the Web is "hot" as a commercial medium is because of its current size and future growth prospects and exceedingly attractive demographics. Figure 3 below shows the growth in Internet hosts from 1981 to 1994. The WWW-name host is most prevalent on the Net, implying that many hosts are Web servers.

As of July, 1995 there were 6.64 million host computers on the Internet ([Network Wizards, 1995](#)). This number has been approximately doubling annually since 1981. Of these 6.64 million hosts, 1.74 million are .com domains, 1.41 million are .edu domains, .30 million are .net, .27 million are .gov, .22 million are .mil and .20 million are .org domains. Demonstrating that the Internet is truly a global phenomenon, the same source shows that 2.37 million of these are international hosts connected to the Internet, representing 150 countries.

The number of domains is also impressive; as of October 6, 1995, there were 135,023 domains registered with InterNic, as reported by Walsh ([Internet Info, 1995](#)), with the bulk of those representing commercial or the ".com" addresses (115, 827).

The growth in Internet-connected networks is also impressive (Internet Society, 1995). In January, 1989, there were 213 networks in the United States and 34 networks connected to the Internet outside the U.S. Six years later, in January, 1995, there were 26,681 U.S. networks and 19,637 international networks. The Internet Society projects that at current rates of growth, by 1996 these numbers will rise to 57,910 U.S. Internet-connected networks and 47,245 non-U.S. networks.

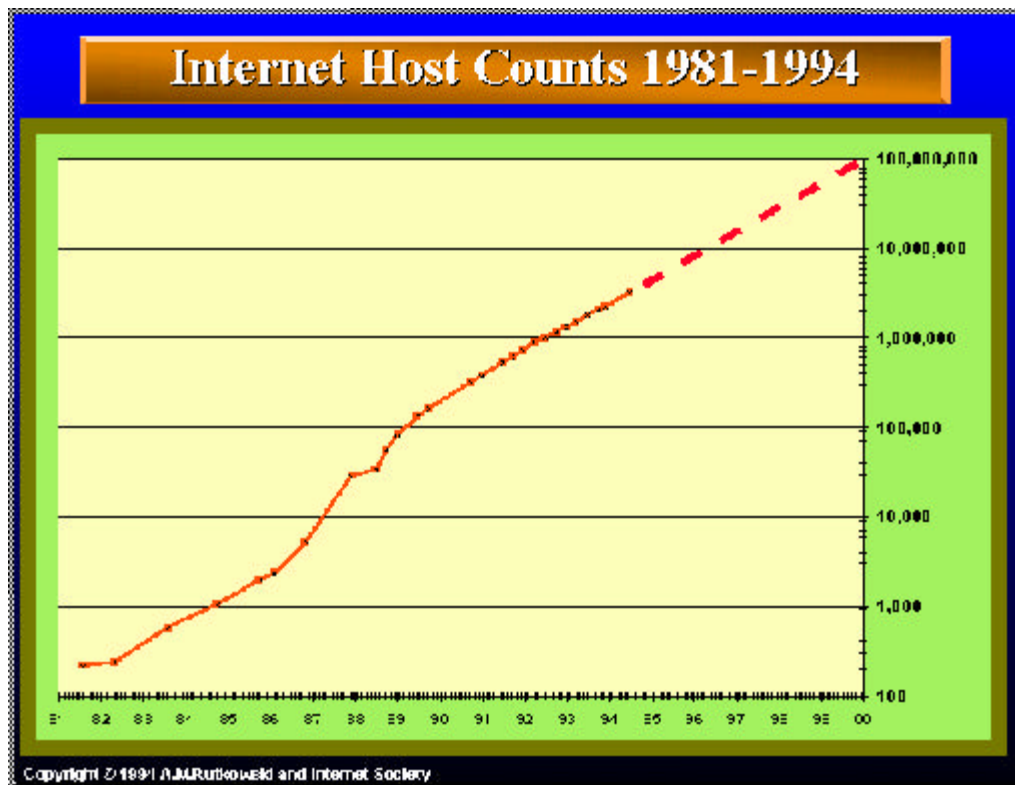


Fig. 3
The World Wide Web: Background - Internet Host Growth

World Wide Web Growth

[Growth in Web sites](#) is even more impressive than that of Internet; the Web grew a staggering 1758% in 1994 alone and doubles in size roughly every two to three months. More than 23,000 Web sites were found by the [Web Wanderer](#) in July, 1995 (Gray, 1995). Lottor (1995) estimates that there are over 80,000 Web servers on the Internet and that this is likely an underestimate by as much as 20 percent. In the table below, we show the growth in Web servers since Mosaic was introduced. These numbers, obtained from Gray (1995), also underestimate the true number of servers since the estimation problems that plague host measurement, including "bogus" addresses and firewalls, also occur for server measurement.

Month/Year	Number of Hosts
Jun 1993	130
Dec 1993	623
Jun 1994	1265
Dec 1994	11576
Jan 1995	12000
April 1995	15768
July 1995	23000+

In terms of content served up by these Web sites, the popular search engine [Lycos](#) indexed 8.54 million unique URLs as of October 7, 1995.

Statistics show that Web traffic (on the NSFNET backbone) now dominates Net activity (Anderson, 1995). In April, 1995 ([Merit Network, Inc., 1995](#)), the Web accounted for 21.4% of total packet traffic and 26.25% of total byte traffic, ranking first among all networks on the Internet. Ftp service ranked second with 14.02% of packet traffic and 21.53% of bytes. News (nntp) ranked third in packets (8.12%) and bytes (8.66%) and telnet ranked fourth in packets (7.5%) and seventh in bytes (2.5%). But note that many ftp and news requests are now issued through the Web, so that Web traffic over the backbone is actually even higher than these figures suggest.

Observers credit NSCA Mosaic (introduced in the Spring of 1993) for jump-starting the growth of the Web. This stunning growth is a classic example of a rapid diffusion process (Rogers, 1983) where adoption is fueled by word-of-mouth communication, an internal influence (Bass, 1969; Mahajan, Muller & Bass, 1993). Word-of-mouth centers around the uniquely interactive nature of the Web. [Hoffman & Novak \(1995\)](#) discuss the unique characteristics of the Web medium as computer-mediation, hypermedia, machine-interactivity, network navigation and telepresence.

Attractive Demographics

Computer-oriented consumers are "techno-savvy" (O&M Direct, 1994) and PC penetration in the United States is significant. The PC market is "young," since 58% of PC owners have had their PCs for less than two years (Zeigler, 1995). According to the recently released Odyssey Homefront Survey Results (Vonder Haar, 1995), one-third of U.S. households have a PC at home (up 27% from July, 1994), 13 percent have CD-ROM drives, and 18 percent have modems. However, online service penetration remains low; only nine percent of American households subscribe to one or more online services.

The non-representative [Georgia Tech/Hermes](#) survey of Web usage (Graphic, Visualization, and Usability Center, 1995; Gupta, 1995) based on 13,006 responses reveals a decidedly upscale profile of Web visitors. The average age is 35, 91% have at least some college education or better, the median income is between \$50,000 and \$60,000, with an average household income of \$69,000. Further, according to this online survey, Web visitors are mostly white (82%), and mostly male (82%). The fact that Web visitors are primarily upscale may account in part for the premium they apparently place on convenient and reliable content and their relative indifference to price as a factor in commercial transactions. Web visitors also tend to be employed in the professional and computer-related occupations.

SRI's (1995) [psychographic analysis](#) of the Web population gives further insight into the Web visitor and identifies two broad categories of the Web "audience." The first group is called the "upstream" audience and represents 50% of the current Web population. This group is estimated to represent 10% of the U.S. population, is 77% male, educated (97% have at least some college education), and upscale. Members of this group are what SRI terms "Actualizers," successful men and women with high self-esteem and active 'take-charge' lifestyles. Upstream Web visitors typically receive institutional subsidies for Web usage and represent the pioneer Internet users. Because most upstream users are already online, future Web growth must come from the "downstream" segment.

If the SRI analysis is valid, then the rate of adoption of the downstream or "Other Half" of the Web will determine when and if the Web achieves critical mass as a commercial medium. The other half already online represents the lead users of the other 90 percent of United States society. This group is

noticeably less gender-skewed than the upstream group (64 percent male and 36 percent female), younger (70 percent are under 30), and on its way to being just as educated (89 percent have at least some college education) as the group is comprised of students or recent college graduates. The other half are predominantly made up of what SRI refers to as Strivers and Experiencers. According to SRI, Strivers are unsure of themselves and seek approval from the world around them. In contrast, Experiencers are enthusiastic and impulsive, seeking variety and excitement from life. An interesting finding that requires further study is that some of the downstream Web visitors appear not to find the Web valuable.

Note, however that the results of such surveys are not population-projectable, nor necessarily representative of the "typical" Web visitor. However, these early demographics surveys suggest that current Web consumers are leading-edge early adopters (Freeman, 1995).

Motivated by Hoffman and Novak's (1994a) "call-to-arms" for a non-proprietary, industry-wide survey of Internet demographics, [CommerceNet](#), a non-profit consortium of firms dedicated to promoting electronic commerce, has funded the first-ever, population-projectable, representative survey of who uses the Internet and why. [Nielsen Media Research](#) was selected to administer the survey. Our own [independent analysis of the results](#) will be available in the Spring.

Barriers to Commercialization of the Web

The barriers to consumer and firm adoption impact critical mass (Oliver, Marwell, & Teixeira, 1985). Accumulated industry experience and anecdotal evidence strongly support the contention that the primary barrier to consumer adoption of the Web as a commercial medium is ease of access. Convenience of access is at the core of the adoption of any technological application and determines its ultimate success (Gupta, 1995). In the context of the Web, ease of access is a multidimensional construct and includes high speed access (the "bandwidth" problem), ease of finding a service provider, and the diffusion of the computer hardware/software/modem bundle into the home. The secondary barriers are ease of use, price, and risk, including such factors as privacy and security. Ease of use includes issues such as the user-friendliness of the software, ease of software installation, and the like. The marketplace will weed out even technically feasible Web applications if they prove too complicated for the average consumer to use (Seaman, 1995). Hence attempts to develop technology that is user-friendly are as important as the development of the technology itself.

There is a great deal of concern regarding the security of financial information transmitted over the Internet and its impact on consumer willingness to buy or sell products (IITA 1994). This limitation is critical to mass adoption of the Web, especially since surveys of Web users indicate that vendor reliability and security of financial transactions are important to users (Gupta, 1995). At this writing, such limitations impact consumer behavior on the Web: currently, the majority of consumers use the Web to browse or search much more than actually to purchase something (Booker, 1995, Wintrob, 1995).

The barriers to firm adoption arise from the Web measurement problem (Donaton, 1995b). Firms are unsure of the number of people on the Net and how many people use the Web and this uncertainty makes investment decisions difficult. In addition, there are no established criteria for judging the success of Web sites (Bellafante, 1995). Hence, researchers need to develop concepts to shape standards. Such standards are critical to demonstrate the viability of the Web as a commercial medium, and provide mechanisms for measuring investment opportunities and business success.

The commercial success of a firm's Web site depends in part on accurate information on market potential

and consumer needs (Donaton, 1995b). The Web provides multiple ways to reach a diverse and exciting set of markets. Determining the appropriate set of target market segments and evaluating the penetration of Web access technology in each market is the first step in developing an integrated marketing strategy.

Because critical mass for interactive technologies is "all-or-none," (Markus, 1987), the Web will not be successful as a commercial medium until it achieves critical mass. An important first step in any marketing program is therefore the determination of how many people are on the Internet and what they are doing there (Hoffman and Novak, 1994a). It is also necessary to define and estimate segments of Web behavior based on customer need. The economics of the Web can then be examined for each specific case to determine if the return on investment meets financial targets.

Some sites, e.g., [Pathfinder](#), [HotWired](#), and [Internet Shopping Network](#) are attempting to capture data to address the above objectives by providing the option for visitor "authentication." In this process, visitors may register as subscribers in order to use the site fully (e.g., to search for specific content or to make a purchase). This enables the marketer to use demographic data and information on new and repeat visit patterns to strengthen its (and sponsors') marketing programs on the site. Ultimately, marketers may build detailed databases and tailor marketing programs specifically to individual visitors or groups of visitors.

Models of Web-Based Business

Consider the following. As of October 9, 1995, a significant number of the 80,000-plus Web servers on the Internet represent commercial sites. Nearly 14,000 firms were listed in Open Market's (1995) "[Commercial Services on the Net](#)" directory and in the [Yahoo](#) Business and Economic directory, there were 23,540 entries under "Companies," with an additional distribution of listings as follows (including cross-listings):

Yahoo Heading	Number of Sites
Classifieds	262
Directories	178
Electronic Commerce	67
Marketing	46
Markets and Investments	308
Products and Services	4431

There is no doubt that a great deal of commercial activity exists on the Web and that this activity is increasing. However, the proliferation is confusing. What sorts of business models are being implemented? Are some better than others? Two questions are especially relevant: 1) Is anyone making any money? And 2) Where are the opportunities?

Profitability from commercial activity on the Web includes productivity savings, marketing and sales

savings, and incremental or new revenue streams. Productivity savings arise from reduction in order and processing costs and more efficient inventory management. Increases in productivity on the "soft" side through more efficient personnel may also lead to productivity gains.

Savings may also be realized from efficiencies in the marketing and selling functions. The Web shifts more of these functions to the customer; savings result through reduced brochure printing and distribution costs and reductions in order-taking as customers use fill-out forms to prepare their own orders. As control is also effectively transferred to the customer, we speculate that customer satisfaction might actually be increased.

Finally, incremental or new revenue streams are available for firms participating in digital commerce, through, for example, online sales, advertising revenues, or information brokering. Incremental revenues may be achieved for those firms who use the Web to expand into new channels of distribution and new market segments. Corporate training, electronic distribution and maintenance provide additional revenue opportunities for appropriate firms. However, secure mechanisms for transactions are necessary to fully exploit the revenue-generating opportunities of the Web (Donaton, 1995).

Although we can address the potential for profitability, the question of whether anyone is making money on the Web remains largely premature. However, a careful examination of where the opportunities are can be undertaken. Despite the current frenzy of activity, there is little information on the types of business models in use and whether some have the potential to be more effective than others. Strategic insight is therefore needed into how sites are differentiated, how they may be designed more effectively, and how to attract customers to sites.

A New Classification of Commercial Web Sites

In integrated marketing programs, marketing managers combine elements of various media in order to maximize the effectiveness of a communications program (Belch, 1995). Despite the intense interest in such coordinated efforts (see, for example, Duncan and Everett, 1993), there has yet to be widespread adoption and implementation of the concept (Cleland, 1995e; Schultz, 1995).

The concept of integrated marketing holds appeal and promise for business efforts on the World Wide Web, because the Web offers enormous potential for developing customer relationships and customizing the offering to individual customers. In this section, we define six functional categories of [Commercial Web Pages](#). Each can be considered as an element in an integrated marketing program in the context of digital commerce. Below we discuss each category in detail and suggest how the elements may combine structurally to form the components of an integrated marketing program. The examples presented below were selected to reflect the range of practice regarding commercial activity on the Web, not necessarily best business practice. The reader should also be aware that as the Web is rapidly evolving, some links may have changed or disappeared altogether.

- Online Storefront
- Internet Presence (Flat Ad, Image and Information)
- Content (Fee-Based, Sponsored, Searchable Database)
- Mall
- Incentive Site

- Search Agent

The six functional types provide the building blocks for a successful site. An integrated strategy should involve all of these, put to different use. Commercial Web site design includes Online Storefront sites, Internet Presence sites and Content sites as shown in Figure 4.

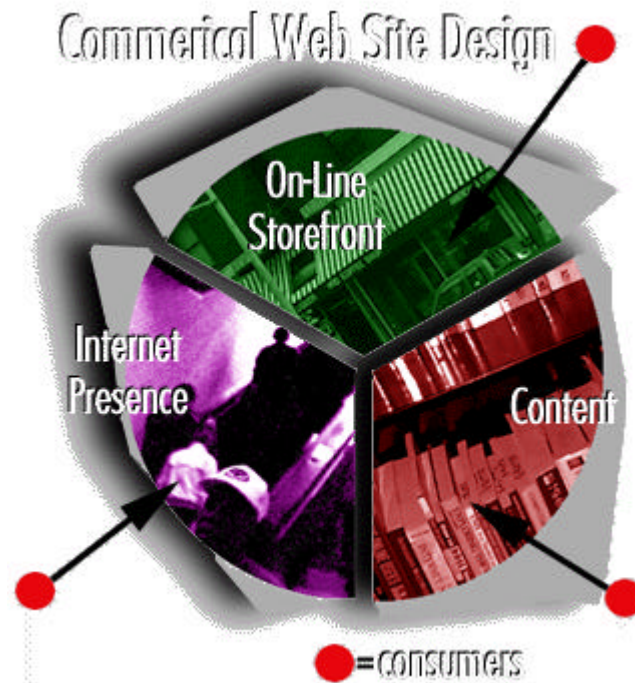


Figure 4.
Commercial Web Site Design

The main challenges for marketers are to attract visitors to the site and generate significant repeat visits (Williamson & Johnson, 1995). Awareness leads to trial or the initial site visit so that the trial problem depends on "Web Traffic Control." However, sites will only be successful in the long run if they generate repeat traffic, which is far more difficult to achieve than trial. The repeat visit problem is partly a function of Web site design (Saloman, 1995) and depends to a large extent on customer need. Figure 5 displays several types of Web traffic control, all of which share the marketing objective of attracting visitors to the Web site.

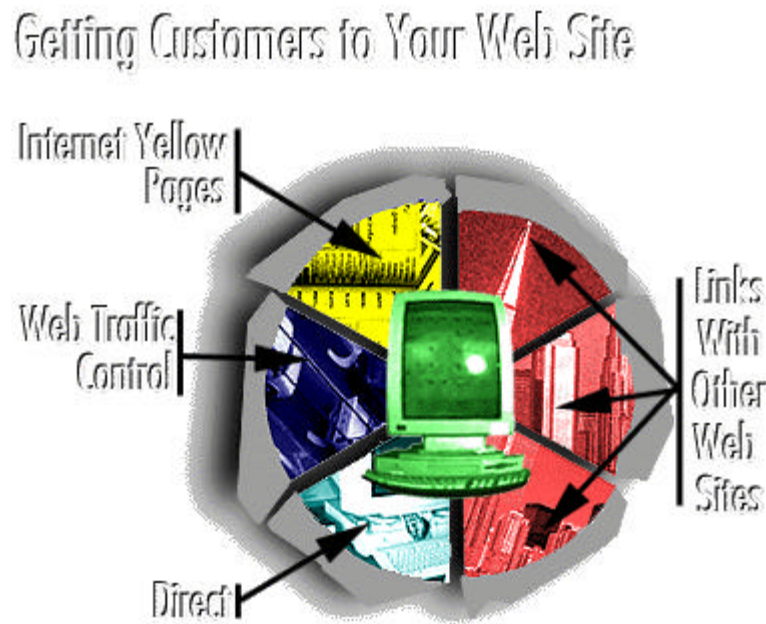


Figure 5.
Attracting Customers to a Web Site

Online Storefront

These Web sites offer direct sales through an electronic channel via an electronic catalog or other, more innovative format. The number of products presently being sold on a single site ranges from one to many. Consumers order goods via fill-out form, 800 number, registration, or surface mail. Online storefronts cover a wide variety of offerings; examples include [Absolutely Fresh Flowers](#), [Adventurous Travelers Bookstore](#), [Alaska River Adventures](#), [Ann Hemyng Candy](#), [CDNow](#), [Freeway Enterprises Person-to-Person Web Sites & Greeting Cards](#), [HeadFirst](#), [Internet Shopping Network](#), [San Francisco Music Box Company](#), and [Shrink-Link](#). . A recent innovator in this category is [Security First Network Bank, FSB](#), the world's first Internet bank. This entry offers online consumers the ability to open accounts, pay bills, and manage their finances via the World Wide Web.

Opportunities abound for the Online Storefront model. It combines elements of direct marketing with in-store shopping and has the potential to be vastly more efficient than either. In this approach, there are tremendous opportunities for customization and relationship marketing. A much broader definition of product and service categories becomes possible in this environment. The ultimate development are those products that can exist or be consumed *only* on the Web (see, for example [Freeway Enterprises Corp.](#) offering electronic greeting cards for person-to-person Web sites.)

However, the Online Storefront model poses a number of *Challenges*. Current access speeds can make online shopping frustrating and tedious. Additionally, the terrestrial approach to shopping necessarily sets the standards for online offerings. In many cases, the online versions pale in comparison to real-world experiences of flipping through glossy catalogues or shopping in department stores. Because the technologies for secure transactions (e.g., online payment) are not mature yet, security and privacy are major issues that have yet to be addressed satisfactorily in this medium. Finally, the consumer behavior issues are completely unknown. For example, we have little idea how to stimulate "trial" and "repeat," do not know yet what the most effective segmentation bases will be for online shopping and understand little about the impact of marketing tools like custom- designed incentives.

Internet Presence Sites- Flat Ads, Image, and Information

Internet presence sites provide a virtual "presence" for a firm and its offerings. They may also serve to signal to current and prospective customers and competitors that the firm is on the cutting edge, possibly driven by "mimetic isomorphism" (DiMaggio & Powell, 1983). We identify three types of Internet Presence sites: flat ad, image, and information.

Flat Ads are single page electronic flyers with no hypermedia links. They could just as easily appear in a newspaper or magazine, though a flat ad is decidedly less sophisticated than its print counterparts. We expect the evolution in this category to include hypermedia, particularly as Web browsers like [Netscape](#) integrate real-time audio and video (for example, Sun Microsystem's [Java](#) multimedia language (Johnson, 1995). [Weightlifting 101](#) and [Xopix](#) represent current examples of flat ads.

In Internet Presence **Image** sites, the consumer appeal is emotional rather than rational. Information about the product, if any, is provided in the context in which the product is consumed, or has meaning to the consumer. Such sites appear to be especially suited to products that have low hard-information content. Examples include [Late Show with David Letterman](#) on [CBS Eye on the Net](#), [Miller Genuine Draft](#), [Paramount's U.S.S. Voyager: Sickbay](#), [Planet Reebok](#), and [Zima.com](#).

Information sites provide detailed, rational information about the firm and/or its offerings. Internet Presence Information sites can take on innovative and sophisticated forms (for example, [Sun Microsystems](#)), and are best suited to offerings with high degree of hard-information content. Decision aids (e.g. "[Step Search](#)") can be used to facilitate navigation.

One objective of such sites is to build a relationship with the consumer even before the need to purchase the product or service arises (Rechtin, 1995). Examples include [American Airlines](#), [Andersen Consulting](#), [Apple Computer](#), [Burlington Coat Factory](#), [Club Med](#), [FedEx](#), [Fidelity Investments](#), [Forrester Research](#), [HeadsTogether/Bookworm](#), [Lotus](#), [MathSoft](#), [Network Wizards](#), and [Volvo](#).

Opportunities for Internet Presence sites include the ability to reach motivated customers with an information- or image-rich communications message. Because the entry barriers are so low, smaller firms can set up Internet Presence sites as well (or in some cases even better) than larger firms. We believe that Internet Presence sites represent the future of advertising and marketing communications on the Web.

Challenges include the actual execution, that is, what is the best way to implement such a concept? Executional challenges are greater for image sites, but the rewards may be greater, as well, since image sites are possibly more likely to generate flow, the "glue" holding the user in a site (Hoffman & Novak, 1995). A final challenge is how managers can evaluate the effectiveness of such sites.

Content - Fee-Based, Sponsored, and Searchable Database

In **Fee-Based** content sites, the provider supplies and/or pays for content which the consumer pays to access. Fee-based content sites are expected to proliferate as secure payment mechanisms are implemented. To date, however, the model has met with only limited success, perhaps because consumers may be unwilling to pay for content delivered in this manner. A recent trend is toward information-brokering, as with [Newshare](#), and usage-based pricing, as with [NewsPage](#), where visitors are able to access news summaries at no charge, but incur a small fee for the full text of a story. Other examples include [DowVision](#), [QuoteCom](#), and [Washington Weekly](#).

Sponsored content sites sell advertising space to reduce or eliminate the necessity of charging fees to visitors (Donaton, 1995b). Thus, as with magazines in the terrestrial world, advertising appears from a variety of sources and underwrites the editorial content. A recent trend is toward sponsored "entertainment" content (e.g., The World Wide Web Dating Game), and sponsored search agents (see below). Typical current examples of sponsored content sites include [Mother Jones](#), [PowerPC News](#), [Triangle Online](#), and [Washingtonian Online](#). Some sponsored content sites combine elements of the Internet Presence model and the Mall. Examples of such hybrids include [GNN](#), [MecklerWeb](#), and [Pathfinder](#). Current advertising rate structures and information on sponsored content sites is available from [Interactive Publishing Alert](#).

In the third type of content model, merchants or advertisers pay a provider for information placement in an organized listing in a **Searchable Database**. The unit of analysis is a person, service, or information source, all of the same type. This is the inverse of Fee-Based content model. Selected examples include [Catalog Mart Home Page](#), [Single-Search](#), and the [Virtual Headbook](#).

Opportunities abound for content sites, as they closely parallel traditional media models. At the present time, there is generally no (sponsored content) or at most a small (fee-based) charge to consumers to consume the content. For some firms, e.g., Wired and Time/Warner, they offer a new channel for expansion. Firms adopting this model have the opportunity to reach an advertiser-coveted audience. In addition, such sites may provide meaningful exposure that would otherwise be lost in the unstructured clutter that currently typifies the Web (Cleland, 1995d). Additionally, content sites can demonstrate innovation, are efficient compared to their terrestrial counterparts, and are, in theory, easy to implement.

However, the *challenges* for content sites arise due to this perceived ease of implementation. The close parallels to traditional media represent significant execution hurdles for content sites. How best to measure and optimize consumer response to advertising in sponsored content sites is completely unknown.

Mall

The **Mall** site typically constitutes a collection of online storefronts, each of which may contain many different categories of goods for sale. The provider charges rent in exchange for the virtual real-estate and may offer a variety of services to the storefront (Gaffin, 1995). Some malls also accept advertising, as with, for example, the [Internet Mall](#). Other examples include the [Branch Mall](#), [CyberMart](#), [eMall](#), and [Shopping 2000](#).

Incentive Site

The **Incentive Site** represents a unique form of advertising that attracts a potential customer to a site. The objective is to *pull* the user to the commercial site behind it, thus helping marketers generate traffic to their Web sites (Cleland, 1995a). The content may be transitory in nature and may appear to serve as a "public service announcement" or offer incentives. From the context of web traffic control, Incentive Sites serve the same function as Malls. Some efforts may be especially sophisticated, as in directory services like [Open Market](#). Other examples include [As the Web Turns](#), [Cupid's Cove](#), and [Lucky Leprechaun's Lane](#).

Search Agents

The purpose of **Search Agent** sites is to identify other Web sites through keyword search of a database that extends throughout the Web. Software agents are used to generate and/or assist the search through

the database.

A recent trend in such sites is the emergence of fee-based (e.g., [InfoSeek](#)) or advertiser-sponsored (e.g. [Yahoo](#)) search agents. Other examples are [Lycos](#), [Open Text](#), and [Web Crawler](#), with additional contenders entering the market regularly. Newer search agents like [BargainFinder](#) incorporate increased assistance to the user in the search process.

In terms of *opportunities*, there are a wide variety of novel ways of generating traffic to a Destination Web site. There is also the potential to model the diffusion of site visitors as a function of the location from which the consumer entered the site. Recently, search agent sites have shown potential as high-traffic vehicles for advertising sponsorship.

Web traffic control sites face a number of *challenges*. The proliferation of commercial Web sites means that it is increasingly difficult to find anything on the Web, especially if one is not looking for it! Therefore, identifying pivotal cross-linking opportunities will be critical.

Summary and Conclusions

We have proposed a framework for evaluating the commercial development of the World Wide Web on the Internet. Our categorization scheme organizes the explosion of commercial activity and identifies two major categories of sites: "Destination Sites," and "Web Traffic Control Sites."

Destination Sites include Online Storefronts, Internet Presence Sites, and Content Sites. These comprise the ultimate "destinations" competing for consumers' share of visits on the Web. Web Traffic Control Sites, including Malls, Incentive Sites, and Search Agents, function to direct consumers to these various Destination Sites. We argued that the marketing objective is to integrate these sites into a coordinated plan designed to achieve the important marketing objectives of generating initial visits and securing repeat visits.

Our systematic categorization also serves to focus strategic attention on:

- *Understanding evolution of sites and structural characteristics over time:* Examining the attributes underlying Web site structure can lead to insight into what makes a successful site.
- *Gaining insight into categories that do not exist yet:* Since site characteristics will change over time, tracking changes will suggest where the development is headed.
- *Keeping an eye on the leading edge to gain differential advantage:* From a developmental point of view, managers need to identify the extent to which firms are following existing models or developing new models. One path to differential advantage will be to create innovative sites in less crowded categories, particularly as sites proliferate.

The models we have identified here reinforce the idea that the firm's relationship with the customer must take advantage of a key feature of the medium, namely interactivity, and that such relationships must be updated continuously. The interactive nature of the Web is especially conducive to relationship building and offers marketers new opportunities to create stronger brand identities which have the potential to translate to brand loyalty (Upshaw, 1995).

Future work should focus on empirically estimating the relative distributions of firms across these different categories and the types of firms within each category. Research efforts should be especially

concentrated at developing integrated marketing approaches that specify the ways in which these different elements can be combined for maximum advantage.

The Internet, especially that portion known as the World Wide Web, has the potential to change radically the way businesses interact with their customers. The Web frees customers from their traditionally passive role as receivers of marketing communications, gives them much greater control over the information search and acquisition process, and allows them to become active participants in the marketing process.

However, significant adoption barriers to commercialization preclude predictable and smooth development of commercial opportunities in this emerging medium. Commercial development of the Web must follow the demand ("demand pull"), instead of being driven by "gold fever." Firms will reap the benefits of innovation in interactivity by being closer to the customer than ever before.

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