

AN EXPLORATORY INVESTIGATION OF THE INTERNET AS AN INTERACTIVE MEDIUM: DESIGN AND OPERATION ISSUES

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ABSTRACT

The interactivity of the Internet makes it potentially the ultimate direct marketing channel. This study reports the results of a study of the design and operational aspects of the web pages of the Fortune 500. The results indicated many of the web pages were lacking their ability to interact with the audience.

INTRODUCTION

The Internet offers several advantages to the marketer (Clemente 1998). First, it provides an information conduit and sales channel that presents an opportunity for instant, measurable feedback from the customer. Second, although recent concerns about privacy have caused these practices to undergo a great deal of scrutiny, it allows customers to be tracked and mined (Simpson 2000). Third, it facilitates the development and expansion of a global business. Lastly, it is an interactive medium that can help build marketing relationships. However, no marketing tool is without its weaknesses. In the case of the Internet, its audience is limited to those businesses or consumers that are connected to the Internet. Second, search and navigation over the Internet is sometimes difficult. Third, many Internet users are connected at a rate of 28.8 kbps so connection time is slow and web sites with complex graphics may not load at all. Lastly, privacy is a concern both in the U.S. and in foreign countries (Heckman 1999; Stepanek 2000).

Myths about how the Internet is going to completely change the marketing of products have been exposed (Barker, Borrego and Hofman 2000). Problems during the 1999 Christmas season illustrated the "build it and they will come" mentality is not a viable Internet marketing strategy. A study that examined 50 web sites ranging from eToys to L.L. Bean to Toys-R-Us to Wal-Mart reported shoppers were unable to place orders 25% of the time, 36% of the sites had unhelpful customer-service numbers and 20% of the packages arrived late. Furthermore, the study found 88% of the online shopping carts were abandoned before checkout (Chen and Lindsay 2000).

Business-to-business marketing may be the most fertile ground for penetration by the Internet (Burke 1997). The basic concern a customer has in

business-to-business marketing via the Internet is whether a supplier's web site will streamline its purchasing process (Strout 1999). Can a customer set up an account? Can a customer find out if an item is in stock? Is there customer support that allows a customer to ask a question and how fast is the response time? Can a customer track an order through the web site? Does the site load and process an order or inquiry? Is the site easy to navigate? This study investigates these questions by exploring the following web site design and operations that may be important in facilitating customer interaction.

1. *Identify the company* – To enhance credibility and facilitate communication a web site should identify the company name and logo (Sterne 1999).
2. *Easy navigation* – A 1999 survey found that 54% of web user respondents felt the most important factor in deciding which web business to patronize was ease of navigation and whether the site was user friendly (Anders 1999). This result suggests links should exist on every page to take the visitor back to the home page or to other related pages. Visitors stuck on "dead end" pages don't remain on a web page very long. In addition, Krauss (1999) reported that only 10% of web site visitors were found to scroll beyond the part of the web page that fits on the computer screen.
3. *Information rich* – A web site should include information about products and services, and should be updated regularly as the lack of fresh information is a common complaint of web site visitors (Anders 1999).
4. *Contact information* - The web site should provide a telephone number and/or address in case the customer wants to contact the company.
5. *Load time* – The web is an interactive medium that uses visual images to attract and hold a customer's attention. The more detailed the images, the slower the web site will load. A 1999 study indicated 24% of respondents would take their business elsewhere because of slow response time (Anders 1999). Sixty-five percent of respondents in another 1999 survey stated

increased transfer speed would increase the effectiveness of the Internet as a way of doing business (Peterson 1999).

6. *Inquiry response time* – The rule of thumb for responding to an e-mail message is 24 hours (i.e., same as a telephone call). A 2000 survey found 23 of the Fortune 100 companies could not be contacted by e-mail through their home web page (including Hewlett-Packard and Intel). In the 77 cases where e-mail was available, 38 responded within 2 days. However, 20 companies had not responded to multiple inquiries after 3 months (nua 2000b).

METHODOLOGY

During February and March of 2000, a convenience sample of web sites consisting of the Fortune 500 companies were content analyzed for common design format and operational characteristics (e.g., links, navigation bar). The web pages were printed in black and white. In hindsight data richness was lost by not printing the pages in color. Two judges independently examined and categorized the information from each web page. Interjudge reliability was 83.5%. Disagreements over categorization of information were resolved through discussion after an independent assessment by each judge.

RESULTS

The results of the study are presented in Table 1. The most common links included in the web page were: About the Company (84.1%); Product/Service Information (82.6%); Company News (71%); Investor Relations (64.3%); Contact Us (59.6%); Employment Opportunities (56.6%); Privacy Statements (49%); Search Option (41.9%); Public Affairs (35.2%); Purchase Information (33.4%); and Customer Service (22.2%). In an effort to gain insight into industry differences in the design of web pages, a convenience sample of three industry groups was selected based on the degree of penetration of web marketing. In the business-to-consumer arena, retailers have little to modest penetration, while financial service organizations have experienced more penetration (28.9% in a 2000 *Wall Street Journal* survey) (Bulkeley 2000). Wholesalers are business-to-business operations where web penetration has been quite successful (Gomes 2000). The comparison of the three industries also can be found in Table 1.

Financial service organizations (82.6%) were found to be more likely to include information about the company than were retailers (76.7%) or wholesalers

(70.8%). The difference may be explained by the fact that customers of financial service organizations want to know more about these companies because of the high level of financial risk associated with investing one's money with a company. In addition, financial service organizations (43%) were twice as likely to have a customer service link on their web page compared to wholesalers (20.8%). However, nearly 70% of the retailers offered a customer service link. Perhaps decades of intense competition has led retailers to extend what they know about customer service to their web pages faster than the other two industries. Somewhat surprising is the apparent lack of a customer service focus by wholesalers where the Internet has had the greatest penetration. Perhaps the lack of customer service on wholesaler web pages is in part due to the fact that many wholesalers have sales forces and management hasn't determined the appropriate balance between providing service via the Internet and in person via a salesperson.

Seventy-three percent of retailers provided a link to purchase products, compared to 37% of financial service organizations and only 25% of wholesalers. This result is somewhat surprising given the growth of business-to-business Internet sales. Wholesalers (70.8%) were more likely to include contact information than either financial service organizations (63%) or retailers (30.7%).

Although retailers appear to have a better handle on facilitating product purchase and customer service, they lag behind financial services when it comes to including a search option (42.3% vs. 56.5%). However, they exceeded the number of wholesaler web pages that had a search option (33.3%).

Privacy statements were part of almost 50% of the web pages. This is not surprising given the recent emphasis on privacy as a customer concern related to doing business over the Internet. This is especially true for financial service organizations as 78.2% included a privacy statement on their web page.

The average amount of time it took a retailer web page to load over a LAN was 23.98 seconds. This compared to 38.88 seconds over a 28.8 kbps modem. Financial service organizations loaded slightly faster, 22.25 seconds for the LAN and 33.89 seconds via a 28.8 kbps modem. Wholesaler web pages loaded the fastest, 10.32 seconds for LAN and 30.92 seconds for a 28.8 kbps modem.

TABLE 1

Components of Fortune 500 Web Sites

Link	All Companies		Retail		Wholesale		Financial Services	
	n	%	n	%	n	%	n	%
About the Company	413	84.1	20	76.7	17	70.8	38	82.6
Contact Us	293	59.6	8	30.7	17	70.8	29	63.0
Customer Service	109	22.2	18	69.2	5	20.8	20	43.0
Employment Opportunities	278	56.6	10	38.4	18	75.0	32	69.5
Investor Relations	316	64.3	10	38.4	14	58.3	28	60.8
Privacy Statement	241	49.0	11	42.3	14	58.3	36	78.2
Company News	349	71.0	13	50.0	15	62.5	29	63.0
Product/Service Information	406	82.6	21	80.8	19	79.1	35	76.0
Public Affairs	173	35.2	6	23.0	8	33.3	19	41.0
Purchase Information	164	33.4	19	73.0	6	25.0	17	36.9
Search Option	206	41.9	11	42.3	8	33.3	26	56.5
LAN Load Time in Seconds			23.98		10.22		22.25	
28.8 Modem Load Time in Seconds			38.88		30.92		33.89	
Percent Responded to E-mail Inquiry			50%		25%		53%	
Average Response Time to E-mail Inquiry in Hours			6.5		16		18.4	
Percent of Sites with Navigation Bar		72.9%		85.7%		75%		76.9%

A key part of using a web page that would facilitate interaction with a customer is the time it takes to respond to an inquiry. An e-mail question was sent to the companies that provided the capability of sending an e-mail message through their home page. Fifty-three percent of the financial service organizations and 50% of the retailers responded to the e-mailed question. However, only 25% of the wholesalers that provided e-mail capability responded to an e-mailed question. In the case of wholesalers, it could be that the message was forwarded to the sales force for a response, and given the fact that the messages were sent from a home computer, there was no way for a sales person to make a call. The results appear to be consistent with the results of a 2000 survey of 1,000 small U.S. businesses that reported a growing dissatisfaction with online customer service offered by business-to-business vendors (nua 2000a). In the survey, 61% of the small business respondents

expressed satisfaction with online customer service in 2000, down from a 73% satisfaction level in 1999.

The response time to the e-mail inquiry was interesting. Retailer responses averaged 6.5 hours (Home Depot responded in 9 minutes), while wholesalers (16 hours) and financial service organizations (18.5 hours) took longer to respond but did so within the 24-hour rule.

Seventy-four percent of the Fortune 500 sites had a navigation bar. Retail companies were more likely to have a navigation bar (85.7%) than either financial services organizations (76.9%) or wholesale companies (75%).

DISCUSSION

The Fortune 500 companies were found to be lacking in many areas relative to the web design and

operations investigated in the current study. It could be that at the time when this research was conducted many of these companies were in industries where the Internet has had little impact other than to provide information. However, even the web sites of companies in industries where one might expect to be designed and operated to facilitate interaction were found to be lacking on several key points. It may be that when it comes to web marketing these companies just make it a bit harder for visitors to get the information on products or services that they seek. Furthermore, these companies have a physical presence (i.e., retail stores, brokerage offices, sales forces) where customers can purchase products or obtain service may be not as concerned about losing customers to a virtual dot com company.

The results also may be partially explained by the fact that many companies have felt pressured into having a web presence, yet management is not quite sure how to incorporate the web as part of the company's marketing strategy. How is a company suppose to know what to do? The first step is for the company to set objectives for its web site that might include maximizing customer interaction. Only then can a company design and operate its web site to interact with the audience it is attempting to attract.

LIMITATIONS

The results of this study must be interpreted in light of its limitations. First, the Fortune 500 was selected as the sample. Many of these companies are from old-line industries where web marketing is a relatively new phenomenon. It is possible that over time these companies will make dramatic improvements in their web site design and operation. Quite different results may have been observed if experienced e-commerce companies such as Amazon.com were investigated. Second, because developments in web marketing move so quickly, the observations made during the spring of 2000 could be very different from the first three months of 2001. Therefore, a longitudinal study needs to be implemented to track the changes in strategy used by these companies.

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