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**A Preliminary Analysis of Internet Use for Direct Marketing by
the Tennessee Food and Beverages Industry**

by

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Introduction

The Internet is the fastest growing communication medium in history, surpassing historical growth rates in both radio and television. Estimates from the 1997 Nielsen Commerce-Net Survey are that in excess of 50 million people over the age of sixteen in the U.S. and Canada have access to the Internet and over 40 million use the Worldwide Web (WWW) (CommerceNet/Nielsen). Internet users tend to be young, well-educated, and have high incomes (Georgia Visualization Center). The Internet presents many opportunities for businesses to use direct marketing to reach a large audience of potential buyers across a wide geographic area. Because marketing through the Internet is not constrained by necessity of a physical location or a particular time zone for conducting business, marketing through the Internet is particularly useful for thin markets or niche markets (Peterson, Balasubramanian, and Bronnenberg). For small companies use of other marketing methods to reach such a wide audience might be cost prohibitive.

While the Internet has potential direct marketing benefits, its use for actual business transactions is still relatively low. Only about 3% of Internet sites actually provide the means for conducting on-line shopping transactions (Food Institute). In addition, the Internet reaches a somewhat narrow segment of the population. Other concerns include on-line security, difficulty finding sites, and slow information download times.

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This study examines use of the Internet for direct retail marketing purposes by the Tennessee food and beverages industry. As part of the examination of industry use, the study uses information from a sample of 25 Internet marketing sites of Tennessee food and beverage processors and specialty retailers. This information is summarized to give an overview of what elements the typical direct marketing site might include. Cost estimates of third-party services for designing and hosting an Internet marketing site are based upon fee rates of third-party service providers used by the food companies in the sample.

The first section of this paper examines the background of Internet use for direct marketing, including the demographics of Internet users, elements of Internet marketing sites, and potential benefits and concerns of marketing food and beverage products across the Internet. The second section of this paper presents results from an on-line sample of Tennessee food and beverage direct marketing sites and estimates of costs of third party web-site design and hosting services. As this research is preliminary, recommendations for further research are examined in the final section of this paper.

Direct Marketing through the Internet

Demographics of Internet Users

Numerous studies have been conducted attempting to measure the demographics of Internet users. Results from two user surveys are shown in Table 1. The Graphics Visualization and Usability (GVU) Center of Georgia Tech University conducts an annual survey of WWW users. The GVU 8th Survey was run from October 10, 1997 through November 16, 1997 and included over 10,000 WWW users. Another continuous on-line survey is conducted by Survey-

Net. The Survey-Net second demographic survey was started on March 21, 1997 and as of March 5, 1998 had 2033 respondents.

The findings from both of these surveys suggest that users tend to have high household incomes. Users are slightly older than the general population, but a large share fall within the 22 to 35 year age group. A much higher proportion of users are males than females. While male users still outnumber females, the percent of users that are female has been steadily rising. In fact, the previous GVU WWW User Survey (7th) showed that only 31.3 percent of users were female. The percent of users that were races other than white also rose slightly from the 7th survey (percent white users 89.35%). The average age of the user also rose slightly from the 7th survey (35.98 years). These percent changes suggest that use will likely broaden to a wider segment of the population in the future.

Table 1. Selected Results from Internet User Demographic Surveys.

Characteristic	GVU 8 th WWW User Survey	Survey-Net	Statistical Abstract of the U.S. (1996 estimates)
Age	36.53 years	45.9% between 22 and 35 years	34.6 years median
Gender-Female	40.54%	33.1%	51.1%
Household Income/Year	\$54,040	65% over \$40,000	\$34,078 median
Education Attainment-College Degree	27.67%	25.1%	24%
Race-White	88.44%	-----	82.8%

Elements of Internet Marketing Sites

Internet marketing sites may contain various elements and serve differing levels of marketing functions. O'Connor and O'Keefe (1997) present several on-line marketing options for small companies. These are:

- image building electronic billboards that have basic company and product information designed to influence consumers to seek further information about the company and its products, such as through a mail order catalogue, a phone call, or an in-store visit;
- virtual catalogs with product advertisements and ordering instructions such that buyers can obtain product specifications and pricing directly from the site and place an order through mail, FAX, phone, or e-mail. More sophisticated virtual catalogs include company and product information with capabilities provided for secure on-line ordering of products and obtaining inventory information; and
- virtual malls are on-line malls with products from a number of vendors.

A brief introduction and a short history of the company and product are often included in Internet marketing sites. In virtual catalog sites, each product listed may have a featured picture, and a brief product description such as product size, weight, color, flavor, quality descriptors, availability, and price. Food and beverage product sites may also contain recipes or recommended uses, such as for gift items or holiday use.

Virtual catalogs include any shipping and handling charges or taxes buyers might incur. Typical or expected length of time from the date of ordering to the date of delivery may also be provided. Return policy can also be included in the site. Opportunity for customer

contact or feedback can be through a provided company e-mail address, mailing address, phone number or FAX. Cross-links to complementary products may also be provided as a marketing tool.

Potential Benefits of Internet Marketing

The potential benefits of marketing through the Internet stem from the ability of a company's product information to reach a wide audience in a relatively low cost manner. The potential benefits also arise from the ability to revise Internet site information quickly compared with other media, such as printed materials. The potential benefits include:

- the Internet facilitates direct marketing by firms;
- information that would be prohibitively expensive to produce and distribute in print can be placed on the Internet at less cost;
- changes in product specifications, pricing, and new product developments can be made available quickly on-line;
- a large number of customers across wide geographic distances can access the information at the same time;
- consumer information and feedback about products and services can be gathered on-line;
- buyer questions can be answered or resolved immediately by personnel within the company;
- data can be generated on which pieces of on-line information are being consulted and how often; and

- some studies have shown that web ad banners may generate higher levels of brand awareness than television or print advertising (“Why Internet Advertising?”, *Mediaweek*).

For the food industry, where there are frequent new product introductions, the Internet provides a medium through which product information can be added and modified quickly. Also, because direct or niche marketing can be important for small food and beverage processors, the Internet provides a mechanism for direct marketing or marketing to specific audiences across a wide geographic area.

Potential Concerns of Using Internet Marketing

A number of concerns may limit adoption of Internet use for marketing purposes:

- currently the Internet reaches only certain segments of the population and, therefore, only certain potential buyers;
- buyers are concerned about the security levels of conducting on-line transactions;
- slow download times for sites may also discourage potential buyers;
- with the rapidly growing number of sites, shoppers may find it difficult to find products or companies on-line.

Concern over security has been a potential deterrent to conducting on-line transactions. Shoppers may still be reluctant to give their credit card numbers to businesses through the Internet. Overall business transactions on the Internet have remained at very low levels reaching a total, for business to business transactions, of only \$600 million for the year 1996. Minaham (1997) also reports that a recent survey found that 87% of the buyers are

interested and willing to “use the Internet as a business tool, however, only 11% of them are willing to conduct legal transactions”. Encryption and authentication methods by digital signatures are being adopted as transactions security measures (Mills, 1998).

Concerns about security can be particularly problematic for small businesses that can not afford in-house computer programming support. However, a service industry of third-party hosting has arisen with Internet growth. The third party host may provide secure transaction services for their hosted sites. A variation on hosting services is the virtual mall service that combines hosting, with marketing through a centralized site, where each seller’s site is a virtual storefront (Hall, 1998).

Another potential concern is lengthy download times for Internet marketing sites (Tweney, 1998). Given the availability of a large number of sites to be visited, shoppers are able to search through many sites, and back out of sites with slow download times. If server capabilities are limited and cause delays in downloading web-pages, shoppers may become frustrated and leave the site to find another marketing site. If a third-party hosting service is used, the host should be consulted about capabilities of their computer servers and possible use of multiple servers to handle heavy Internet traffic on their hosted sites (Wagner).

With the large number of sites available and reliance on search engines to locate sites, shoppers may find locating marketing sites for products difficult. Shoppers may have a particularly difficult time in finding a site for company if they do not have information about the company’s url (Uniform Resource Locator or pointer address to a site). Because of availability of a large number of Internet sites, registration of a marketing site with the major search engines is essential.

Tennessee Food and Beverage Internet Marketing Sites

A sampling of 25 food and beverage processors and specialty foods retailers that marketed on-line was taken during the months of January and February 1998. The terms “Tennessee foods” and “Tennessee beverages” were used as keywords in searches using the major search engines. Because no central database that contains all web-sites exists, keyword searching methods were used to locate web-sites. Therefore, it can not be assumed that this sample is random or is necessarily representative of food and beverage industry use of the Internet for direct marketing. The purpose of locating these sites was to document what might be contained in a direct marketing site and examples of the types of products being sold across the Internet by Tennessee food and beverages processors and specialty retailers.

Of the marketing sites located, three firms processed meat products, one firm processed dairy products, one processed fruit or vegetable products, six processed confectionary products, one was a beverage processor, and three processed other types of food products, such as sauces or seasonings. Seven sites were retailers that specialized in Tennessee food or beverage products. Some of these assembled gift baskets or packages for mail order shipment.

The frequency of occurrence of web-site attributes across the direct marketings sites is presented in Table 2. The most common site attribute was a product description. Only one of the sites sampled did not contain detailed product descriptions. Most sites contained an e-mail link for comments or questions about the company and its products. Product pictures were also used by over 80 percent of the sample sites. While 84 percent of the sites contained a phone number for ordering, 80 percent provided a mail address for ordering. Just over three-fourths of the sites provided a product price list and a company description or history. Many sites, about 64

percent, provided e-mail or on-line boxes for ordering products. While most provided a phone number for ordering, only about 56 percent provided a toll free phone number for ordering purposes. Also, 56 percent provided an option for ordering by FAX. About 48 percent provided recipes or suggestions for use, such as gift ideas or holiday use. Although over 60 percent of the sites provided on-line or e-mail ordering, only 44 percent provided a security program message or interface to let shoppers know about security procedures for on-line ordering.

Table 2. Attributes of Internet Marketing Sites Used by Tennessee Food and Beverages Industry.

Site Attribute	Percent with Attribute (N=25)
Product description	96
E-mail link for comments/questions	88
Product pictures	84
Phone number for ordering	84
Address for ordering	80
Product price list	76
Company description or history	76
On line or e-mail ordering	64
1-800 number for ordering	56
Fax for ordering	56
Recipes or suggestions for product use	48
Security program message or interface	44
Linked through another site (ex: a virtual mall)	40
Printable order form	32
Map or directions to store location	16
Page or boxes for collecting information about shoppers	8

While establishing whether each site was linked through another site was not possible, 40 percent of the sites were identified as being linked through a third party site, such as a virtual mall. Because every potential link could not be identified, the percent accessible through third party links is probably higher. Thirty-two percent of sites used printable order forms. Typically these order forms could either be mailed or FAXED to the seller to place an order. Only 16 percent of the marketing sites provided maps or directions to a store location. However, in some cases, this was because the companies did not operate on-site retail facilities. Only 8 percent of the sites contained pages or boxes for collecting information about shoppers.

Based upon the sampled sites, a profile of a typical food or beverage products marketing site would include a product description, product pictures, a phone number for ordering, address for ordering, a product price list, a company description or history and ordering capabilities. Ordering capabilities would either be through on-line ordering or through mail, phone, or FAX.

Design and Hosting Service Cost Estimates

Many small food and beverage companies may find that is not cost feasible to employ computer programmers or web-site designers as part of their full-time staff or to maintain a computer server to host a web-site. Therefore, costs of services provided by third-party design and hosting services are examined. For the sample of food and beverage sites, information was collected, when available, about third-party service providers. The third-party service provider's sites were then visited to obtain pricing information for third-party services, including web-site design and hosting services.

Internet service providers offer two primary services to help clients get their web-sites on-line: (1)authoring and design and (2)hosting. Authoring and design and hosting services are now widely offered and a wide range of prices and service packages are available from vendors. Two potential methods of searching for a service provider are to (1) find Internet sites for service vendors in the local area and (2) locate other agribusiness Internet sites and then check with the service vendor the business used. Also, most service vendors will have links to sites they have authored and designed for clients.

Prices for authoring and design services can vary widely, as can the packages of services offered. Usually, less expensive sites include no or one graphic file, such as a company logo, and an e-mail link. Some firms will design logos for an additional charge. Often design work is charged on an hourly basis. Hourly rates for web-site design services range from \$25 to \$100 per hour. If a client has their own images that need to be scanned in, scanning services may be provided, for example at \$25 to \$50 per scan. Some firms offer packages with a one time set up fee. A typical beginners business package, for example three pages, a logo and two scanned photos per page, links between pages, one e-mail link, and registration with the major search engines could range from \$400 to \$1500. Services such as on-line ordering or customer feedback forms (cgi forms), audio clips, or video clips are available for additional charges.

The prices of web-site hosting services are usually based upon several factors. First, the more expensive web-sites enable the client to have their own web name (ex: WWW.MYFIRM.COM). This name must be registered in order for no one else to use the name. With this unique name (URL: Uniform Resource Locator) users may access the web-site's information with software on their computers called Web Browsers. In addition to web-site

hosting, businesses may wish to have access to e-mail. An e-mail address allows the user to contact or be contacted through electronic mail. The name and address of the user's e-mail would be different from the web name, but could be integrated into the web-site for easy contact by prospective users.

The more web storage the site uses, the more costly the site service becomes. The more e-mail accounts accessible through the web-site also increases the price of the service. A basic service, such domain name registration with a virtual domain, three e-mail accounts, and minimal storage requirements, such as 20 to 50 megabytes for storage, and 400-500 megabytes per month for traffic will run about \$25-50 dollars per month. Some services charge on a per megabyte basis for storage, such as \$20 per month for 10 megabytes. The service of name registration can average about \$150-\$200 per year. A monthly hosting package with a guaranteed address, 100 megabytes for storage, 1000 megabytes for traffic, five e-mail accounts, and a secure server option (includes encryption for processing on-line orders), can average around \$100-\$150/month. Some services offer user statistics as part of their packages also.

A range of estimates for a start-up and first year costs for a basic business site are from a low of \$700 to a high of \$3300. A breakdown of the costs is shown below.

Estimate of first year costs:

Web-site authoring
\$400-\$1500

Web-site hosting
 $\$25-\$150/\text{month} * 12 \text{ months} = \$300-\$1800$

Total costs for first year service
\$700-\$3300

After the initial year, modifications such as price changes, product changes, or other information changes will likely need to be made to sites. Some services will make minor changes to sites as part of their monthly charge. However, editing is often done on an hourly basis, such as the \$25-\$50 per hour rate for entering text pages.

Summary and Conclusions

This study represents a preliminary analysis of use of the Internet for direct marketing purposes by the Tennessee food and beverages industry. Of the sites examined in this study, either on-line, phone, or mail ordering were marketing functions of the web-sites. The purpose of the web-sites were not limited to image building or to direct shoppers to their facility, but to actually facilitate orders and shipments of purchased products.

While the Internet can present a viable direct marketing alternative for the food and beverage industry, concerns exist with security of on-line purchases, shoppers ability to find web-sites, and how much sales can be expected to be generated from an Internet marketing site. The Internet appears to hold promise for the food and beverage industry, where direct and niche marketing can be important avenues for a marketing program. In particular, products that can be shipped or for which there is an established mail order business may have particular advantages for direct marketing through the Internet.

However, more research needs to be conducted to investigate the feasibility of using the Internet for direct marketing purposes. Future studies should examine a wider sample of firms, perhaps including other types of agribusinesses, for which direct marketing is an important marketing mechanism. This study has addressed typical elements contained the sites and made

some preliminary cost estimates. No information was collected from the sample firms regarding the impact of the direct marketing sites upon their product sales. Future research should address the issues of the marketing objectives of the firms using the Internet as a direct marketing tool and also should address firms' perceptions about impacts of Internet marketing on product sales.

References

- _____. "GVU's 8th WWW User Survey" Graphic Visualization and Usability Center, Georgia Tech University. http://www.gvu.gatech.edu/user_surveys/survey-1997-10/, March 5, 1998.
- Hall, E. "Web Store 4.0 Makes I-Commerce Simple", *InfoWorld*, February 2, 1998 p.47.
- _____. "Internet Population" CommerceNet/Nielsen Internet Demographic Survey <http://www.commerce.net/stats/wwwpop.html>, March 5, 1998.
- Mills, E. "International Experts See Need for Global Encryption Policy," *InfoWorld*, January 26,1998, p.73.
- Minaham, T. "Internet Buying is a Tough Sell", *Purchasing*, Jan 16,1997; v122 n1, p.113.
- _____. "Most Web-sites Still Electronic Brochures," Food Institute Report, Jan 19, 1998, p. 3.
- O'Connor, G. and B. O'Keefe. "Viewing the Web as a Marketplace: the Case of Small Companies," *Decision Support Systems*. v. 21, 1997, p. 171-183.
- Peterson, A., S. Balasubramanian, and B. Bronnenberg. "Exploring the Implications of the Internet for Consumer Marketing," *J. of the Academy of Marketing Science*. v. 25, n. 4, 1997, pp. 329-346.
- _____. Survey-Net. <http://www.Survey.net/Survey-Net>. March 5, 1998.
- Tweney D. "Setting in Stone the Ten Commandments of I-Commerce", *InfoWorld*, February2, 1998, p.50.

Wagner, M. "Playing in Heavy Traffic," *Internet Week*, March 3, 1998. Reprinted in *Tech Tools*.

<http://www.techweb.com/tools/9803/980312traffic.html>, March 20, 1998.

_____. "Why Internet advertising?". *Mediaweek*, May 5, 1997; Why the web

supplement, pp. 8-16.

U.S. Census Bureau. 1997 *Statistical Abstract of the U.S.*

<http://www.census.gov/prod/www/abs/cc97stab.html>, March 6, 1998.

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