Effects of location, size, and animation on the response rate to a promotional Web banner

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EFFECTS OF LOCATION, SIZE, AND ANIMATION ON THE RESPONSE RATE TO A PROMOTIONAL WEB BANNER

by

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Bachelors of Science
State University of New York at Geneseo
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Examination Committee Chair

Dean of the Graduate College
ABSTRACT

Effects of Location, Size, and Animation on The Response Rate to a Promotional Web Banner

by

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Dr. John Bowen, Examination Committee Chair
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The purpose of this study was to investigate the layout and design of promotional Web banners on a company home page. To accomplish this, three variables; location, size and animation were used to test their effect on the response rate to those banners. Response rates were calculated by dividing the total number of click-throughs to the banner by the total number of visits to the Web pages. In each case, a relationship existed between the variable and the response rate. The results of this study also show that both animation and size can have a positive effect on response rate. Furthermore, it was found that location was not as effective as the other variables in the determination of response rates to the promotional banners. Marketing managers should consider these and other variables when designing and constructing company Web sites.
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CHAPTER 1

INTRODUCTION

In June 1994, a Phoenix-based law firm advertised an innocuous piece of junk mail to around 5000 Internet newsgroups stating their connection with US immigration law. The response to that ad was phenomenal. Comparing the cost of those 5000 'mailers', which was effectively nothing, Laurence Canter and Martha Siegel received about 20,000 expressions of interest for an advertisement that was essentially displayed to an untargeted market. In addition, the law firm also received some 30,000 angry e-mail responses that jammed their account eventually forcing them off the network (Barrett, 1997).

This case provides some exciting results that should be met with only the utmost enthusiasm to Web marketers. The fact that Web-based advertising reaches droves of viewers should be great news to the ears of many marketers whose sole purpose is to get the public to notice their products. The above mentioned business reached as many as 50,000 known viewers not including the number of people who refused to respond. The potential of such a marketing medium should go without question.

In the six years since the publication of the above incidence, there have been some enormous shifts. In 1995, the on-line advertising market was worth an estimated $37 million; in 1996, US and European businesses had spent an estimated $200 million on Internet advertising. At the time, observers such as CyberAtlas, Jupiter
Communications and Forrester expected this to exceed $1 billion in 1998, and jump to approximately $5 billion by 2000. However, this would still equal only a fraction of the current worldwide market for traditional media advertisements such as print and television media (Barret, 1997).

In the 1999 Internet Demographic Survey, CommerceNet and Nielsen Media Research found that the number of Internet Users in North America alone had reached 92 million, slightly below ’95 predictions. That means that today nearly half of North America uses the Internet (http://www.commerce.net).

More and more today consumers are turning their attention toward a new form of media blitz, the Internet. Consumers seem to be more intent on actively making their own decisions. This self-reliance is particularly evident when it comes to making travel arrangements. The Internet allows users too avoid the intermediaries (travel agents) and seek reasonable airfare and hotel accommodations on their own. Because of this phenomenon, hotels have become increasingly involved in the Internet as an advertising medium by supplying viewers and potential consumers with an interesting Internet Web site where viewers are able to better understand a hotel’s product.

Like other forms of advertising, a Web page requires proper design and lay out to be effective and to keep the viewer’s attention. Efficiency is paramount to an effective Web page. Marketing representatives need to understand that when a viewer finds a certain Web page, they do not want to spend more time than they have to surfing through a Web site. Important page items such as reservations, hotel locations, product promotions, etc. need to be strategically placed upon the page in order to make these items easily noticeable and accessible (Sterne, 1995).
According to Sterne (1995), the single most important consideration when designing a company Web page is the company's intended audience. There is a need to carefully balance what the company wants that audience to see, hear, read, learn, and do, and what the audience wants to see, hear, read, learn, and do. "If it is not easy to access, interesting, and valuable, they won't give you a second thought" (Sterne, 1995, p.8).

Web site promotions, such as those involving contests or giveaways, may be one way to arouse interest from the market. How those promotions are designed, regarding size and animation, and where they are placed upon the respective Web page may tell us something about how visitors view page items. By studying Web design, marketers might be able to better understand how to increase their site's effectiveness, by strategically designing and placing their page items in a manner that allows easy access, creates value, and proves interesting.

Problem Statement

The purpose of this study is to investigate where and how Web page items should be positioned to obtain an optimal response rate from Internet users through the manipulation of three factors: size, location and animation. This will be accomplished by comparing the number of click-throughs on a promotional banner to the number of Web site visitors, while varying the three factors over an eight-week period.

Justification

Due to the ever-increasing competition among today's companies, more time and money is being invested into the Internet to improve market share within all industries.
With this understanding, there is a need to study the lay out and design of items that appear on company Web sites. Like traditional print media, Web page graphics need to be carefully designed and laid out to gain acceptance on-line. Likewise, the success of a promotional item depends on the placement and design of that item on its respective Web page.

The purpose of this study is to provide insight into how companies within many industries can maximize their on-line promotional efforts to draw the most interest from their target market. This research could prove to be beneficial to companies who plan to increase their marketing dollars on the Internet by leading to a better understanding of how visitors view on-line graphic design and lay out. This information could then be assess other page items such as the placement and design of buttons, graphics and other promotional material.

Another factor that must be taken into consideration is the importance of e-commerce in marketing activities. Today, increasing percentages of revenues are being reinvested back into advertising efforts for the purpose of promoting e-commerce. According to Jupiter communications, "dotcom" companies spend approximately 25% on advertising efforts. One of the reasons for this may be the decrease in the cost of Web exposure of the past few years. The average cost per thousand (CPM) to advertise on the Web has decreased over the past three years, from $37.21 CPM's in 1997 to $33.75 CPM's in 1999. Subsequently, the Web has seen an overall increase in Internet ad expenditures over the past three years. In 1997, some $227 million was expensed in Internet advertising efforts. This number climbed to $1.2 billion in 1999. By the year 2004, it is estimated that close to $22 billion will be spent on Internet advertising in the
United States, while worldwide spending is expected to reach $33 billion (http://www.jup.com).

With the information available for traditional advertising media forms, there exists little information on the area of Internet marketing. The increasing number of those going on-line to conduct business along with the overall increase in on-line sales, should entice most companies, particularly hotel companies, to take a more active role into researching this new marketing vehicle, specifically its impact on e-commerce.

In 1996, the travel industry was already among the leaders in e-commerce. By then, on-line travel products accounted for $275 million, but were predicted to account for around $825 million in 1997, $4.5 billion in 2000, and a whopping $9 billion by 2004 (Gatty & Blalock, 1998). In 1999, on-line travel had indeed made up a third of the nearly $12 billion invested by on-line shoppers (Weiss, 1999).

A 1998 survey performed by the on-line analyst Jupiter found that 42% of Web consumers reportedly researched hotel rates via the Internet (Weiss, 1999). The TIAA (Travel Industry Association of America) also found that more than 52 million travelers used the Internet to plan their trips. This is a 50% increase from the previous year. Of those 52 million, 17 million actually booked their own arrangements. This represents an increase of 146% over the 1998 numbers (Gregory, 2000). These findings further substantiate the notion that the Internet provides a rich medium to aim future marketing efforts by travel companies, particularly hotel companies.
Hypotheses

1. \( H^0 = \) Location is not a factor in determining the overall response rate to a promotional banner.
\( H^A = \) Location is a factor contributing to the overall response rate to a promotional banner.

2. \( H^0 = \) Size will not be a factor in determining the response rate to the promotional banner.
\( H^A = \) Size will be a factor in determining the overall response rate to the promotional banner.

3. \( H^0 = \) Animation is not a factor in determining the overall response rate to the promotional banner.
\( H^A = \) Animation is a contributing factor to the overall response rate to the promotional banner.

Delimitations

This particular study was considered to be exploratory in nature. Until now, a limited amount of research has been attempted to study the effects of variables upon Web page items. As one of the preliminary studies on this subject matter, this study introduces how page layout and design impact the response rate to page items, or in this study, promotional banners. Further research should be attempted for the purpose of supporting or rejecting the results of this study.

The number of variables was limited to three (location, size, and animation) because these factors may be considered the most influential when it comes to testing the
effectiveness of both traditional advertising media and online advertising efforts. According to Tolley & Bogart (1988), the location of a newspaper advertisement has an impact on the level of viewer response. Where an ad is located specifically effects the recognition of the ad by both prospected and non-prospected viewers. The size of an advertisement also has a dramatic influence on the recognition of that respective ad. Valiente (1973) reported that ad illustrations explained .16 per cent of the variance obtained through testing. Due to the recent nature of Internet advertising, very few studies have tried to test the effect of animation on viewer response. One study performed at www.bannertips.com, tested the CTR (Click-Through Rate) on 5 banner ads showing a difference in CTR between animated and static banner ads. The result of this study showed that banner animation significantly effects the response rate to certain banner ads.

It is also important to note that the two properties that were used in this study were at one time under separate ownership. In this way, each of the two properties represented separate entities sharing no common threads. Only recently were the two properties brought together under one company flag. Thus, each of the sites used in the study could be considered to represent those companies with comparable market share. This might not be the case with all of the companies within the hotel/casino industry, specifically the smaller companies.

One of the primary characteristics of the World Wide Web lies in its ability to allow users to view what they want to view, a phenomenon that is not related to other forms of advertising. Most traditional forms of advertising try to push a company product or name on the consumer. Therefore, some of the visits to the Web page could
come accidentally, but these types of viewers are most likely to log off. Visitors who are not interested in the site can potentially increase the response rates calculated in this study.

Access was only given to two Web sites, both under the ownership of one company; therefore one might not be able to generalize the subsequent results to other industry Web pages. A more effective test may be to present the banner advertisement on the site of a search engine. These results might yield a more accurate account of ad effectiveness on a broader audience.

Definitions

**Banner Advertisement**- “A rectangular ad usually appearing at the top or bottom of a Web page, commonly 468X60 pixels in size” (Zeff & Aronson, 1999, p.411).

**Counter**- “A program that a Web site uses to count the number of visits to a Web page” (Zeff & Aronson, 1999, p.412).

**Click-through**: A viewer who visits a Web page and subsequently clicks on a banner advertisement (Barrett, 1997)

**GIF (Graphic Interchange Format)**- “A format for saving images for use on the Web. Mostly used for art and simple logos and not meant for high quality art or photographic images, which require the more robust JPEG format” (Zeff & Aronson, 1999, p.413).

**Hit**- For the purpose of this study, a hit is considered to be a successful log onto a Web page by a viewer.

**Icon**- Refers to the contest banners.
Link- "A hypertext entry that lets the reader jump from one Web page to another page or file either on the same site or on another Web site" (Zeff & Aronson, 1999, p.414).

Pixel- A unit of measurement that describes the number of units in a graphic.

"The Company"- Refers to the hotel/casino company that allowed this study to take place.
CHAPTER 2

LITERATURE REVIEW

History of the Web

Web marketing is a concept that, in the last 5 years, has allowed marketers to expand their vision beyond traditional forms of media. Television and newsprint are no longer the only means for marketing specialists to convey their product to the world, or better yet their "target" audience. The Internet is receiving much more attention in the world of marketing because of its low cost and potential to reach a specific audience.

Only 10 years ago, the Internet was off limits to commercial enterprises, as well as most of the world. The origin of the Internet dates back 40 years when the Department of Defense (DOD) wanted to create a computer network that would aid in military research. The first network of this type, later known as the "ARPAnet" (Advanced Research Projects Agency) became operational during the late 1960's. By connecting different computers from various military and research institutions around the nation, an Internet Protocol (IP) allowed all different types of computers, using different operating systems, to communicate with one another. The institution of the ARPAnet consisted of only four networked research locations--University of California, Los Angeles, the University of California at Santa Barbara, the Stanford Research Institute, and the University of Utah (Bender, 1997).
After establishing such capabilities as electronic mail, electronic mailing lists and file transfer capabilities, the ARPAnet broke into two separate entities — MILNET used primarily for military communications, and the ARPAnet for the continued exchange of scientific and technological information between various research institutes. Then in the 1980’s, with the development of local area networks (LAN) for computers and the creation of the National Science Foundation’s NSFnet, the Internet was transformed into a new high-speed telecommunications network. The Internet was now almost ready to gain worldwide acceptance (Bender, 1995).

The National Science Foundation (NSF) used the Internet primarily for non-profit research purposes. This meant that the transmission of commercial messages was specifically prohibited from the NSFNET. This quickly changed as soon as the US government and the European Union began to understand the potential of a global information infrastructure “leading in time to a worldwide ‘information superhighway’ connecting businesses and individuals in a high-speed, interactive ‘cyberspace’” (Barrett, 1997, p. 8). Instead of relying on government funding to start the Internet, commercial sponsors were welcomed in for the investment of venture capital.

In 1990, businesses were slowly allowed to access the Internet facilities for the purpose of exchanging information related to co-operative projects. In the next few years, the Internet became more commercialized as access to the facilities on the Internet increased. April 1994 marked the first large-scale implementation of direct marketing efforts by an enterprise through the establishment of an Internet shopping environment (Barrett, 1997).
The Internet, however, was originally created for the exchange of academic information by researchers and students, which meant that commercial purposes were seen only as occupying a separate area of the Internet system. It would not take long for commercial enterprises to impinge on the traditional uses of the Internet, first through a series of increasing subtle advertisements and "get rich quick" postings aimed toward inappropriate newsgroups. Many felt that this new realm of information exchange was becoming tainted by the new wave of ever-increasing indirect advertisements (Barrett, 1997).

Barrett (1997) reports that between the time commercial use overflowed into other segments of the Internet and 1997, advertising companies had exploded onto the scene with over 2000 Internet Service Providers (ISP's) offering Internet connectivity. Perhaps the most significant change is to the appearance of the Internet. Instead of the ASCII character-based system which allowed for simple text to be distributed over the Internet, the spread of the World Wide Web and practically free browser software has led to a "multimedia, interactive and engaging environment" (Barrett, 1997, p 9.).

Increasing Business Interest

Almost proportionate to the growing number of users accessing the Internet is the number of big businesses entering the Internet market. According to Benson (1995), business investment on the Internet has seen some dramatic increases due to several factors. First, companies began to see the enormous potential from the sheer numbers of Internet users. In 1995, there were an estimated 35 million users online, with as many as 100 million users expected to be going online by 1998. Another factor drawing big business to the Internet was the relative ease and low cost with which companies could
establish their presence. Software improvements, such as “Web browsers”, made it easier for users to navigate the Internet, thus increasing online use and creating a better online environment. Companies also could now use high-quality multi-media presentations in the forms of full-color images, enhanced sounds, and videos to promote their products (Benson, 1995).

Next, companies shared a common desire to gain an understanding of this new media vector in order to better position themselves when the Internet gained popularity. Companies also wanted to display to their audiences that they were both progressive and technologically aware. In this sense, company Web sites were seen as mainstream and began to grow in popularity, even without full awareness of the potential of such a marketing medium (Benson, 1995).

On-line Presentations

More than just a new marketing medium, which companies use to communicate to the public, the Web can be described as a new marketing arena which brings companies much closer to their customers than before in a new interactive environment. As a new paradigm, the World Wide Web moves organizations “beyond the physical constraint of their traditional realms and creates a virtual community in which businesses compete” (Palmer & Griffith, 1998, p.44). Palmer & Griffith (1998) contend that the impact that this new technology would have on marketing activities and site design were contingent upon the company’s overall core market offering.

For example, hotels are primarily in business to sell rooms and other such amenities like food, beverage and other merchandise. With this said, hotel organizations
should design their Web pages in such a manner that they actively display their products.

A hotel company needs to develop a site that reflects the image of that organization.

Planning and Promoting the Ideal Web Site

An organization, with intentions of increasing e-commerce, needs to carefully consider its plans when constructing its Web site. Marketing on the Internet requires companies to sufficiently promote their on-line presence. This may be accomplished by such methods as banner advertising, keyword targeting, and URL promotions.

Most Internet advertising is priced according to CPM's or Cost Per Thousands. CPM can be defined as the price an advertiser is charged for displaying an ad one thousand times. The CPM model is typically seen in other traditional forms of media pricing plans. The price to advertise on the Web varies across Internet sites, but usually costs the same on similar sites. For example, it would cost an advertiser a lot of money to advertise on AOL.com, but no more than if that advertiser promoted their company on Yahoo.com.

In fact, much of the Internet advertising efforts have been aimed at search engines and directories. According to Zeff & Aronson (1999), the top four sites to place an ad from January-June 1998 were search engines. Yahoo!, Excite, Infoseek, and Lycos made the top four, respectively, based on advertising expenditures. It is typically easier to spend a large sum of money advertising on one high-traffic search engine rather than distributing that capital among many smaller sites that deliver to the same audience.

In addition to placing banner ads on these high profile search engines, an advertiser can opt to "buy keywords". The idea behind this promotion is that a buyer can literally pay the engine to use keywords, when typed into text field, to list its Web site in
the top search results. For example, if a user were to go to Infoseek and search for the keywords "casino and hotel", the engine would list a few Hotel/Casino companies. Due to the fact that these audiences are more highly targeted, the CPM is subsequently higher to purchase keywords with these engines (Zeff & Aronson, 1999).

An organization can also use other media forms to advertise its Web sites. Today, it is almost impossible to flip through a magazine or change the channel on your television without seeing an ad accompanied by the company’s uniform resource locator (URL) or Web address. This is an excellent way to make customers aware of your Web site.

Web Site Design

When the viewer eventually finds the Web site, he or she should not be greeted with a plain sort of home page. It is up to the developers of the Web site to create the best possible experience for both its prospective and non-prospective customers. In the beginning, many companies used Web sites much like their typical printed matter. At first, many companies did not see the tremendous advantages behind online advertising, thus many companies created simple Web sites to appease the growing online audience as well as seem mainstream. These sites were labeled as “brochureware” which was nothing more than print material reproduced online. Other companies tried to seem somewhat more advanced in their online efforts displaying a site that employed every technological and design feature available (Sterne, 1995).

Unfortunately, both of these tactics proved unsuccessful in their attempts to deliver results thus causing advertisers to rethink the use of their corporate Web sites. Brochureware failed to take into consideration the depth of information that could be
displayed in a user-friendly manner, while the much more advanced online efforts became too expensive to maintain while becoming unsuccessful in showcasing a clear objective. Web designers soon found that effective results could simply be obtained by presenting useful information aimed at educating the consumers about company products. A home page is not like your typical brochure. The site must engage the audience and ultimately make the viewer an active participant in the product the company is trying to sell (Sterne, 1995).

For example, a hotel Web site developer should try to find ways to design a site where customers can actually view the rooms and its amenities. The audience should be able to see a “virtual” product. Today, many hotel Web sites offer a “virtual tour” of their respective properties, showing guest services, amenities, and other attractions. A careful balance needs to become established between what the company wants the viewer to see and what the viewer wants to see.

Web pages should also try to allow the customer to engage in an electronic conversation about their expectations of the product. This can be accomplished by listing an e-mail address that visitors can use to direct their questions, opinions and/or requests regarding hotel products. This way the organization can learn more about their customers needs and try to find ways to meet these needs and fulfill the expectations of current and future customers.

Sweepstakes & Contests

One of the keys to the success of the Internet is the interaction that is experienced between the user and a respective Web page. Web contests are considered an excellent way to engage an audience while at the same time offering them something for free.
More and more today, companies are using contests and sweepstakes to engage their audience while at the same time improving Web site traffic. Many companies are also finding that they are making more sales as a result of these contests.

Promotional efforts can be aimed at collecting information such as names and e-mail addresses. A company can use a contest as a method to retrieve such information. Studies show people sometimes fill out registration forms with bogus information if the giveaway is not of great value. The trick is to find something of value that would motivate the visitor to complete the forms with the most accurate responses.

Campanelli (1999) explains how a San-Francisco-based 911 Gifts Inc. used a sweepstakes giving customers a chance to win a Palm Pilot electronic organizer to drive up subscriptions to their Gift-Alert Service. This service reminded customers about important dates such as birthdays or anniversaries and offered gift suggestions from the company. 911 Gifts had previously used banner ads on major Web sites, such as Yahoo! and AOL. The promotion offered every Web visitor who clicked on the banner ad and signed up for the service a chance to win the Palm Pilot. 911 Gifts entered all responses into the sweepstakes and drew one winner each week for three weeks. The total cost of the contest included $1000 in prizes with minimal marketing expenses, and 911 Gifts reached its goal of adding new subscribers.

Like these companies, hotels can also take advantage of sweepstakes and contests to boost site traffic and increase sales. Hotels can use such tactics as "free night stays" and other related incentives to induce prospective customers to further inquire about the hotel company's product. Hotel companies have a slight advantage in that they can offer their viewers something of a related value like that free night or weekend stay. If a
viewer is visiting a hotel Web site, chances are that the user is already interested in the company's product.

With regards to the free offering, Jim Sterne of Target Marketing of Santa Barbara, an Internet marketing consulting firm in California, agrees that in order to construct an effective sweepstakes or giveaway, a company must give away something that relates to the product that the company is trying to sell. Sterne believes that if a company wishes to pursue qualified leads, then that company must offer something that only the company's prospective buyers want. He stated, "If you're selling home loans, offer free closing to a lucky winner. If you sell telephones, give away free installation. This way, you only get people who are serious about buying" (Campanelli, 1999, p. 56).

Web Marketing

Web Marketing vs. Traditional Marketing

Conventional marketing techniques present a great deal of "wasted exposure" due to its one-way nature and fails to engage the customer in an effective manner. They do not allow customers to control what they are viewing, but only what the sponsored organization wants the viewer to see. These traditional forms also do not permit customers to engage in a two-way dialog with the organization. The World Wide Web has nourished the development of a new marketing paradigm, where customers can now initiate and direct two-way dialogue with their company of interest thereby breaking down the barriers that once divided the two entities (Bender, 1997).

Traditional media venues have advertised to their markets mainly by asserting or "pushing" their product advertisements. By contrast, the Web acts as a "user-initiated"
medium giving users the opportunity to actively seek or "pull" information from a site. Once a visitor has entered a site, he or she is able to actively navigate through the materials that have been provided according to his or her individual needs and interests (Bender, 1997).

**Effectiveness of Web Advertising**

At the organizational level, Bush, Bush, and Harris (1998) reported that many organizations are unclear on how Internet marketing effectiveness relates to their organizations. Being that the Internet is still a relatively new medium, their findings are not that surprising. Given this skepticism, it is important to find out how today's organizations perceive the Internet as a medium of advertising and how it compares to other forms of established media. Leong, Huang & Stanners (1998) reported on the distinct advantages and disadvantages that the Web presents to those who utilize the Web as a form of advertising. Specifically, the authors aimed to compare the effectiveness of the Web advertising medium vis-à-vis several traditional media from the perspectives of business managers and operators.

In the research, the Web, as a source of media, was tested against eight forms of main media (television, the press, magazines, radio, direct mail, telemarketing, point-of-purchase, and outdoor). To make the comparisons, 10 attributes were considered to be important. The attributes used in this study include: (1) Ability to use attention-getting device, (2) Conveying information and detail, (3) Stimulating emotions, (4) Changing or maintaining attitude, (5) Ability to involve the audience, (6) Precipitating actions, (7) Cost to reach target market, (8) Creating brand/product/corporate awareness, (9)

Due to the exploratory nature of the research, the authors focused on Australia’s Perth-based businesses with Web sites. The study used three Australian Internet Search Directories to build a database consisting of companies with Web sites. Their sample size consisted of 1,459 companies, of which 467 were randomly selected by taking every third company from the database. Questionnaires were then mailed out to the CEO’s of the companies to be completed and returned for further analysis.

Leong et al. (1998) used correspondence analysis and cluster analysis to examine the data that was collected. Correspondence analysis was used to test the interdependent relationships among the 10 variables. Correspondence analysis allowed the researchers to graphically display the relationships between the categories of each variable, as well as the relationship between variables. Cluster analysis served to support the results of correspondence analysis.

Comparing the Web medium with the other forms of media showed that the Web is perceived as being very distinctive from other media, with the exception of direct mail. This lends support to Reardon and Rogers’ (1988) argument that the Web is not easily considered to be impersonal or a mass media channel. Cluster analysis allowed us to see why Web advertising and Direct Mail were considered close. According to the results of the analysis, both forms of media remain close in “their ability to convey information and detail” and “the cost to reach their target markets.” Of particular interest was the fact that Web sites are closer to “cost to reach target market” and “precipitating sales” than Direct Mail. The results also indicated that Web sites were also proximate to such attributes as
"communicating product/brand image", "communicating corporate image", "creating brand/product/corporate awareness" and "ability to use attention-getting device" (Leong, et.al, 1998, p.44). This correlates to Ainscough and Luckett's (1996) notion that Web sites are much like virtual storefront sites and Leong's et al. (1998) idea that the most important objective for Web sites is to promote corporate and product image.

Compared to the Web site, Leong et al. (1998) found TV and telemarketing schemes to be furthest when using their factors. TV was found to be closely associated with "stimulating emotions", while telemarketing was mainly tied to its "ability to involve the audience", which suggests that viewers do not see Web sites as very effective in these two specified areas.

Overall Web managers perceived the Web site as being excellent for conveying information and detail, while at the same time representing a cost-effective, rational medium. Web sites were even considered better in these categories than the established form of marketing known as direct mail. Although Web sites were seen as being not as effective as point-of-purchase or telemarketing in precipitating action, Web sites were still held in higher regard in these areas as compared to television, outdoor, magazine, and press (Leong et al., 1998).

The above material details a comparison between the traditional forms of media and the Internet. This should serve as further support for companies to invest more time and money in testing this new form of marketing. By measuring both the advantages and disadvantages of Internet marketing against other established forms of advertising, companies can better weigh their marketing portfolios in order to determine the
distribution of their marketing resources and whether they are marketing in the most efficient manner possible.

Advertising Location

Goal Directed vs. Exploratory Research

The success of an advertisement or promotion may be linked to its location on a page in regards to its physical location (left, right, top or bottom) and its proximity to other items within the layout. In order to obtain a better understanding of how Web page layouts affect viewer response rates, it may be worth learning how an audience gathers information.

Janiszewski (1998) reports that a visual information search combines two types of behavior; goal-directed and exploratory behaviors. With the first type of behavior, goal-directed, consumers use stored search routines to collect information in a deliberate matter. These types of searches take place as a result of motivation to use stored search routines in order to obtain data in a more efficient manner.

Exploratory search behavior exhibits itself when someone is faced with multiple pieces of information but have very little understanding about how to proceed with the information gathering process. In contrast, this form of data compilation requires a lack of motivation or experience to perform an efficient search routine. Most information is collected by a method, which combines the two search behaviors.

Goal-directed searches refer to the premeditated apprehension of data forms using a previously understood method of searching from memory. For example, as children, most of us learned how to scan written pages from left-to-right for the purpose of
gathering the most information in the least amount of time. The easy or difficult nature of a search task is dependent upon the organization of the data in the search environment, its demand, as well as the task-relevant experiences particular to the searcher (Janiszewski, 1998).

Whether the viewer is actively searching over the pages of a newspaper or magazine, (goal-directed search), or leisurely surfing the pages of the World Wide Web (exploratory search), viewers will come into visual contact with many different, competing stimuli. Advertisers operating within the realms of traditional print media as well as the Internet are increasingly aware of the competing noise that surrounds their target audience. Both layout and stimulus organization, are two factors that directly affect the search activities of an audience. By properly organizing the visual environment in either a magazine or on a Web page, marketers are able to limit, or maybe even eliminate, the attention to smaller or competing subsets of information, thus increasing the speed of the search (Janiszewski, 1998).

Again, exploratory research is more or less set in motion when the searcher is not actively involved in gathering information. In essence, exploratory search routines are identifying candidates for the future use with the goal-directed search. Like goal-directed search routines, exploratory searches have procedures for determining how much attention will be allocated toward a particular display. Differing from goal-directed searches, an exploratory search must determine whether to shift attention toward another competing item, such as another banner ad, or remain and continue to gather information. Thus there is a constant tug-of-war battle being waged between the demand for more information from the focal material and the desire to move onto other competing, non-
focal material. Therefore as more time is spent viewing focal material, more information is gathered and the value of this attention gradually declines, thus increasing the opportunity to attend to other competing forms of non-focal material (Janiszewski, 1998).

The competition between focal sources may be mostly due to the physiology of the visual system. The visual system works according to the intensity of signals from the surrounding area, in which the focal and non-focal material is localized. Located on the retina, visual receptors then measure the differences in the intensity of the signals in order to decode the surrounding information. These receptors are the densest at the fovea, the area of the eye, which receives information from the focus point. It is on this part of the eye that objects, distanced further away from the focal item, become harder to see and are therefore less likely to compete for visual attention (Janiszewski, 1998).

How prospected and non-prospected individuals gather information is extremely important in the context of this paper. Specifically, company Web sites are known to integrate a substantial amount of information regarding their offerings. On a typical hotel Web site, one may find a number of buttons linking him or her to such aspects as reservations, room, restaurants, and other hotel amenities. Where these items are located in respect to one another may have a negative effect on the response rate to those items. As Janiszewski (1998) reported, the closeness of these items to one another may effect the visual attention that is given to each. As a marketer, one of the key items that he or she should be concerned with is the reservations icon. The proximity of other icons could distract viewers thus compromising the success of on-line sales.
Placement of Page Items

To further support the importance of location in marketing mediums, it may be argued that the placement of objects on a page could both positively and negatively influence the audience's focus on those respective objects. In menu design, the strategic placement of food items on the menu's most visible location helps in determining the sales of those items. This strategy follows the advertising adage, "unseen is unsold."

Certain gaze motion studies have helped recognize how individuals view a menu. In these particular studies, support is given to the proposition that, as people read, their eyes move across the page in a predictable manner (Bowen & Morris, 1995).

The rule of "primacy and recency" establishes that people best remember the first and last things they say or hear. With this said, there exists a certain "sweet spot" on a page where a reader gazes first. This spot may dictate the number of times a reader focuses on or views a certain food item, thus possibly promoting sales of that particular menu item. According to Bowen & Morris (1995), this "sweet spot" is designated as the area, just above the middle of the page. On a two-page menu, the area of initial focus is the right-hand page, just above the middle. This study then shows that, "the eyes next travels to the upper right-hand corner, moves counter-clockwise to the upper left corner, then down to the left lower corner and diagonally back again through the menu's center to the upper right hand side (Figure 1)" (Bowen & Morris, 1995, p.4-5).
On a two-page menu design, some feel that the eyes travel from positions 1 to 4, but then move from the bottom left hand corner of the page across to the bottom right-hand corner of the menu as indicated by the dashed lines from point 4 to point 5.

Whether a subject views a menu, magazine, or Web page layout in the same way is, to say the least, arguable. In the end, Bowen & Morris (1995) found their data to be largely inconclusive in terms of the position of a menu item and its direct relationship to sales. However, this study of menu design and layout does serve as a basis to support the importance of item location in regards to a page spread. At the conclusion of this paper, one will be able to see the effects item location has on the response rate to promotional icons and be able to compare those results to other formats such as menu design.
Object-Based or Location-Based Selectivity

Vecera & Farah (1994) question whether visual attention selects objects or locations. Their study may be relevant to this particular study due to the fact that location plays a large role in determining the response rate to the specific icons used and where they are located. One of the possible factors that may effect this comparison of studies may be the use of a promotional ad where a contest is involved, drastically increasing the overall response rate. None the less, their (Vecera & Farah) study may give some poignancy to the subject of the differing response rates seen in the results of this study.

Vecera & Farah (1994) pose the question of visual processing in terms of “what types of representations, are visual stimuli selected by attention.” Some of the possible answers are that attention could select from relatively early, location-based array representations or from later object based representations. According to the authors, location-based representations make up stimuli in terms of spatial location and can be likened to a bitmap representation in which stimuli are looked at as a group of pixels or features bound to a particular spatial location.

In contrast, object representations make up an object's shape per se. These representations are spatially invariant and represent the shape of an object, no matter where it appears in the visual field. In an earlier study (Marr, 1982), object representations, illustrated by 3-D cylinders are spatially invariant because they are represented by the same set of generalized cylinders in the same spatial relations “regardless of the object’s location in visual space.” The cause of this may have something to do with the neurophysiology of the visual system. Not withstanding the
importance of the anatomical concept, some of the details are left out for ease of understanding.

In the end, the inferior temporal neurons have large receptive fields and can represent an object’s appearance relatively independent of where the object falls on the retina. Given this information, Vecera & Farah (1994) raise the question of whether stimuli are selected either from location-based representations (stimuli are selected on the basis of their location) or from object representations (entire objects are selected regardless of their spatial representations).

In Vecera & Farah’s (1994) first experiment, they addressed the question of whether the object-based attention effects observed by Duncan (1984) are the result of attentional selection from spatially invariant object representations, or rather through a grouped location-based representation. Duncan presented the authors with the clearest demonstration of object-based attention when he presented subjects with targets consisting of two overlapping objects. The objects included a box and a line, which can be seen in figure 2.

![Figure 2. Visual Stimuli; stimuli used in experiment #1 of Vecera & Farah’s 1994 study](image-url)
Duncan (1984) specifically gave subjects a brief presentation of the items which consisted of the above or variations of the above figures, and were then asked to report either one or two dimensions. If the subjects reported two dimensions, they could either be dimensions of one object such as the line's texture or tilt, or of dimensions of the two different objects like the line's texture and the boxes height.

The results of Duncan's (1984) experiment found that limitations on performance of this task pointed toward object-based. Duncan based this on the fact that subjects were found to be no worse at reporting two dimensions that one from a single object. However, the subjects were more accurate at reporting two dimensions when they were of the same objects as compared with when the dimensions were on different objects.

The results of Vecera & Farah's (1994) experiment agreed with Duncan's (1994) theory of object-based attentional selection. Although Vecera & Farah admitted to finding some cost of reporting two dimensions from different objects relative to the same number of dimensions from the same objects, the cost was totally independent of spatial locations of the two objects. They also found a high amount of significance (p < .0001) in the main effect for decision type (same vs. different) reflecting an attentional limitation, this factor did not interact with target type (together vs. separate), thus consistent with object based selection.

The importance of Vecera & Farah's (1994) work helps to explain how reader's view advertising objects including the promotional items used later in this study. In other words, are the promotional banners, themselves, mostly responsible for the response rates seen in the results of this study or should the locations be held accountable for collecting the responses to the icons? According to Vecera & Farah, both contribute substantially to
the response rates. They finish their work by stating that more research needs to go into determining the cause of attentional selectivity among readers.

The Effects of Size in Advertising Mediums

Relationship between Ad Preference and Size

Much like the location of an ad, size can influence the response rate to a particular advertisement. The following studies explain how size and other factors affect the response to certain advertisements located in two popular magazines. Specifically, the author uses factor analysis and regression to demonstrate the impact of ad size on advertising readership.

Twedt (1962) used factor analysis on 34 variables and extracted six of those variables, which included: pictorial and color, size, typographic size, information, field, and ad schedule. Twedt (1962) then took these six variables and calculated a regression equation for the purpose of estimating advertising readership in business magazines. For his equation, Twedt (1962) found that size of ad, number of colors, and square inches of illustration explained .58 of the variance. More support for ad size came from a study performed by Troldahl & Jones (1965) in which ad size accounted for .42 per cent of the variance in advertising readership scores.

In a 1973 study, Valiente found four major factors in the magazine Construction Equipment and Materials (CEM), which explained most of the variance. Specifically, ad size-illustrations explained .16 per cent of the variance with high loadings on ad size, weight-height ratio, square inches of illustration, proportion of illustration, and number of similar ads in the issue. An analysis of Life magazine found ad size to contribute much
more to variance than CEM. Ad size made up .44 per cent of the variance (Valiente, 1973).

Using the results of factor analysis, Valiente (1973) included a number of variables in his regression analyses. The following equations were selected on the basis of the coefficients of multiple determination, the standard of error of estimate, and the t values for each of the coefficients.

For CEM:
Noted Readers. = 7.427 + 5.283 (number of colors) + .148 (square inches of illustrations)
$R^2 = .66$

For Life:
Noted Readers = 6.930 + .125 (size of ad in pages) + 5.336 (number of colors)
$R^2 = .66$

In the second part of the study, the same characteristics and analyses were performed in order to determine the relationship between them (the characteristics) and the measure of reader's interest. Starch's (1966) "read most" was used as an indicator of readership interest. "Read most" referred to a subject with little interest in the actual ad, who might read up to 50% or more of the written material.

For Construction Equipment and Materials magazine, ad size-illustrations had a high positive loading on ad size, square inches of illustrations, and number of separate illustrations. It was also factor-analyzed to account for 70 per cent of the variance in "noted readers", those who remember that they previously saw the advertisement in the particular issue under study (Valiente, 1973).

For Life magazine, ad size had the highest positive loading and was considered the most important variable accounting for 67 per cent of the variance of the "read most"
score. Factor analysis demonstrated the relationships between the characteristics and the “read most” scores. These relationships provided the basis for selecting the variables to be included in the regression analyses (Valiente, 1973).

\[
R.M. = 3.32 + 1.61 \text{(number of colors)} + .04 \text{(square inches of illustration)} - .35 \text{(number of benefits in copy)}
\]

\[R^2 = .37\]

\[
R.M. = .04 + .03 \text{(ad size)} + .82 \text{(number of colors)} + .39 \text{(number of pictorial benefits)}
\]

\[R^2 = .26\]

According to Valiente (1973), the results of factor analysis strongly suggested the two factors, color and ad size explained .66 percent of the variance in “noted readers” scores. This gives further support to the idea that response rate is dependent upon the size of the advertisement.

The effect of ad size was summarized by Lucas (1950), when he stated that larger ad sizes not only have a distinct advantage due to their relative size, but have more likelihood of appearing where there are fewer competing elements. This may best be cleared up by saying that a two-page spread reduces to zero the number of neighboring elements that compete, while a one-page ad faces competition from the opposite page. As an advertiser, however, one must also weigh the benefits derived from larger ads with the increased costs of advertising.

**Size as a Salient Factor**

Janiszewski (1998) also reported size as having a significant impact on drawing visual attention away from established focal material. As nonattended objects become larger in size, the projection of the image upon the retina is spread over a larger area composed of receptor cones, and the signal generated from the object's boundaries
become much stronger. Therefore if a Web page contains a number of icons, the larger more isolated icons may take away from those intended focal point or icons.

Relating to the subject of size was the study performed by Janiszewski (1998), in which he stated that salience is one of the primary factors that influence the complexity of the visual environment. Salience directly impacts a visual environment by making certain items, or in this case, banners, easier to select for attention than other items whether they are page buttons or competing banners. Size is one of the factors which contributes to the increased effects of saliency thus leading to the likelihood that an object will be selected for viewing.

Much of what goes into the later tests, involving the direct response to banner promotions, will be the effects of saliency. This research will later find out whether size is, indeed, a determining factor in the direct response to the banner ads.

The Effects of Animation on Internet Advertising

Mixed Conclusion

The use of animated graphics to support marketing efforts in advertising and other promotional instances is very limited. With the advent of Internet Marketing, more and more companies are utilizing animation to enhance graphic appeal on company Web sites and banner ads. This in turn may lead to an increase in site traffic and direct response to the ad and could potentially lead to increases in brand recognition and sales.

According to Barrett (1997), research performed in 1996 showed that the effectiveness of a banner was increased by almost 25% when integrating some form of movement into the banner ad. Even the smallest changes, in terms of banner movement,
can be enough to attract added attention. If the banner can pose the slightest question to the user or elicit another response, the effectiveness of the banner can be further enhanced.

Animation is considered an extremely popular way to raise the response rate to a specific banner and with good reason. Zeff & Aronson (1999) report that animated banners pull a higher response rate when compared to static banners. Designed with multiple frames, an animated banner can deliver more information and graphical impact than the typical static banner. Other advantages include the low cost and small size of the animated banner. These factors make it more cost effective to produce due to the fact that not much is needed, in terms of time and money, to produce animated banners.

One study that opposed Zeff & Aronson's (1999) statement that banner animation pulls higher response rates was conducted at www.bannertips.com. The test consisted of using five banners for the purpose of counting click-through rates after using certain key variables. One set of variables that was used to test the banners was animation versus static. The results of this experiment showed that the static banner headline pulled a better CTR than the animated headline. The proposed reason for this phenomenon was attributed to the fact that the animated headline consisted of 5698 bytes compared to the 2068 bytes. This meant that the static banner loaded 2.7x faster than the animated headline (http://www.bannertips.com/bannerTips1999-09.shtml).
CHAPTER 3

METHODOLOGY

Overview of Research Design

This study intends to test the effectiveness of promotional banner usage on hospitality Web pages, using response rate as the scale of measurement. To accomplish this, two hotel/casino Web sites were used to display a banner ad, which offered those who clicked on the banners, a chance to win a free weekend stay at one of two properties. Each property Web site exhibited a banner ad that was unique in design to both sites. Both banners were linked to a questionnaire, where each contestant was required to complete the form as a condition to entering the drawing. Some of the questions will be used for the purpose of this study, but for the most part, the questionnaire was designed almost exclusively for the sponsoring company.

Due to the lack of literature concerning the three variables and their effects on Web marketing, this study constitutes exploratory research. Most of the support literature comes from the effects of these variables in more traditional setting such as print media Therefore much of the later finding need to be used in such a manner that draws parallels or relationships between these and other marketing vehicles.

As was stated earlier, the essence of this study lies in the manipulation of three key variables used for the purpose of obtaining overall response rates. The three variables that were tested included; location, size, and animation. Location was varied by

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placing the banner on either the lower right-hand side or the lower left-hand side of each respective home page. The size of the banners was manipulated by using an original banner size for four weeks and then reducing the dimensions by 25% the original size for the remaining four weeks. The third factor, animation, was varied by using motion graphics during four of the eight weeks, while keeping the banner static the remainder of the time. An eight-week period was used to fully test each variable in combination with the other two variables. Each week witnessed a change in either one or two of the three variables, until every combination of variables was tested.

Over the eight-week period, an adequate amount of data was collected and processed to measure the effects of this study. One of the more important pieces of data that was collected included the response rate to the banner promotions. The response rate was calculated by dividing the number of click-throughs the banner promotions received by the total number of visits to the site. In order to collect the total number of visits made to the site as well as the total number of click-throughs made on the banners, a counter was constructed and placed on both property Web sites. These counters served to count the total number of visitors that visited the Web site each day over the course of each week. A second counter was placed on the survey link, which served to sum up the total number of click-throughs each banner received.

Some of the other data that was collected through the use of the surveys included mostly demographic information. The purpose of this information was to be able to compare the demographics of both the every day Internet user and visitors to Las Vegas to those obtained by the contest survey.
Reliability

As stated earlier in the paper, using two property Web sites under the same ownership may limit this study in one way or another and therefore should not be held as representative of the entire industry.

However, by using two sites, the study should hold up in terms of its reliability. Using two sites, allows this study to have a direct means of comparison between sites. Doing so "establishes an agreement between two efforts to measure the same trait through maximally similar methods" (Churchill, 1995 p. 236).

Data Collection Procedures

Two collection procedures were used to obtain data for further analysis. One of these methods consisted of using a counter that was programmed into two locations on each Web site. One of the counters was directly programmed into the Home page of each site. These programs were used entirely to collect the site traffic each day at that property home page. Both of these counters were essential in the calculation of the response rate to the banner promotions. The second counter was programmed into survey page that was linked to each property banner promotion. These counters served in the daily and weekly tally of direct hits on the promotional banners.

Linked to each banner was a 20-question survey that was to be completed by each entrant into the contest. Although most of the questions were focused around "the company's" needs, some of the demographic questions are later used for comparison and analytical purposes.
Research Instruments and Techniques

The experiment was administered in accordance with a hotel/casino company. At their request, the hotel/casino company shall remain anonymous throughout the study and will be referred to as "The Company". Again, two of The Company's property Web sites (Web site #1 & #2) were used to display a promotional banner offering participants a chance to win a two-night, weekend stay at one of the two properties.

Description of Web Sites

Web Site #1

Web site #1 had a completely black background with a computer design replicating their property from the outside placed toward the top of the page. At the entrance of the property model was the respective name of the property in bold colorful lettering. Most of the computer model was presented with colorful features contrasted against the appealing black background.

This site also had a number of buttons that the viewer could push to learn more about the property and its offerings. These buttons included; 1) Hotel, 2) Amenities, 3) Entertainment, 4) Gaming, 5) Dining, and 6) Conventions. Some of the other buttons that were scattered about the page were, Online Reservations, Corporate Information, Special Offers, What's New, Other Properties (under the brand name), a second room reservations and show-times buttons, Property Information, and Site Map. In all, Web site #1 contained a total of 15 buttons.

Figure #3 displays the page layout for Web site #1. The figure specifically shows the location of text boxes, graphics and the respective locations where the contest banner was placed throughout the experiment.
Web Site #2

Web Site #2 was designed with the Company's name headlining the top of the page. The name of the property was listed in this area as well. A digital picture of the property was placed in the upper right-hand corner of the page, with text to the left of the picture explaining the product. These items were placed against a white background.

Like Web site #1, this page contained a number of buttons that transported visitors through the site. These buttons were positioned primarily on the left side of the page. These buttons included; Home, Book a Room, Accommodations, Pool & Spa, Entertainment, Gaming, Recreation, Weddings, Meetings, Contacts, and Special Offers. A second reservations and special offers button was located in the middle of the page to emphasize these options. There were a total of 16 buttons placed upon the site.

The following figure (Figure 4) exhibits the layout of page items at Web site #2. Like Figure 3, Figure 4 describes the location of text boxes and page graphics relative to location #1 and location #2 used in the study.

**Description of Banners**

A description of the banner shows that it consisted of a GIF, (Graphic Interchange Format) that was rectangular in shape with an original pixel measurements of 188X49 at Web site #1 and 220X80 at Web site #2. The banners on both pages read, “Win a Free Stay at…” with reference to the property location, which the participants had a chance to win their stay.
Figure 3. Layout at Web Site #1.
Figure #4. Layout at Web Site #2
The Use of the Incentive

The "free stay" was used as an incentive to attract viewers to the banner. The prize served to increase the total response to the banner ad. It has no effect on the overall response rate due to the fact that it remained constant throughout the study. The only changes that were seen during the study were to the banner itself through the manipulation of the three variables. It is not uncommon to use gifts or prizes as incentives for the successful completion of the survey information. In fact, oftentimes researchers offer gifts in appreciation for the time spent answering the questions of the survey.

According to Morton-Williams (1993), using incentives to boost the response rate of those participating in an experiment has been somewhat inconclusive. Results show an inconsistency or only minor increases in response when incentives have been added. In a mail survey, the result of offering a cash incentive to those willing to participate, yielded a higher response rate but inferior data. This may be due to the fact that the introduction of monetary incentives conflicts with "motivations and self perceptions" that normally lead subjects to participate in surveys.

Questionnaire

Upon connection to the Web pages, viewers would find the promotional banners toward the lower portion of these pages. Viewers were then able to click on the ad, which was linked to a 20-question survey. It should be noted that the main focus in this study was the response rate, not the survey. In order to win the "Free Stay" participants were required to fill out the entire survey and submit it for proper entry. Only selected
portions of the demographic information were used as a means of comparison to other established survey works.

**Variable Manipulation**

The banners were manipulated over an eight-week period to factor in the three variables, location, size, and animation. The first two variables, size and location, were used primarily because they factor into many previous studies concerning print advertising. The third variable, animation, was selected because it now defines much of what goes into Internet advertising.

From week to week, each variable was manipulated in order to tabulate the response rate (Number of “hits” to the Web page/number of banner “click-throughs”) during each week. Week #1 occurred from January 7th to January 14th and was used primarily as a test week in order to sort out any problems that might occur with from the outset of the experiment. The GIF was placed in the lower right-hand side of the page and contained an animated GIF89 script. This week witnessed some changes in the wording of the survey and the collection of some of the data. Table 1 displays the changes made from week #1 (Jan. 14th-Jan. 20th) to week #8 (March 10th-March 16th).

**Data Capture**

Samples were collected in a number of ways. First, the sample population, which consisted of the total number of visits to each of the Web sites, was collected by recording the number of viewers that clicked to the Web page from the beginning of the week to end of that week. To accomplish this task, a counter was programmed onto the
Web page to count the total number of visits to each of the two Web pages used in the study.

Next, one sample size was collected in much of the same manner as the sample population. In other words, a counter was programmed onto the page linked to the banner advertisement. For each person that clicked onto the banner advertisement, the counter added that viewer to the daily total. A response rate to the banner advertisement could be calculated using this sample size along with the sample population.

Table 1

The Eight-Week Testing Period and the Accompanying Variables.

<table>
<thead>
<tr>
<th>Test Week</th>
<th>Size 1</th>
<th>Size 2</th>
<th>Location 1</th>
<th>Location 2</th>
<th>Animated</th>
<th>Static</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 14-20</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Jan. 21-27</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Jan. 28-Feb.3</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Feb. 4-10</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
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<td>Feb. 17-23</td>
<td>X</td>
<td></td>
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<td></td>
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<td>Feb. 25-March 2</td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>March 3-9</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>March 10-16</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Note. The Key below explains each of the variables used in the experiment.
Figure 5. Samples of Variables from Table I
Scales

Some of the scales used in this study pertain to the questions used in the survey. The demographic information that will be used in this study addresses four major areas of information. The questions concern age, gender, level of education completed, and ethnicity.

The age category uses ten cases to choose between. Since this study was used at a hotel/casino Web site, the law requires patrons to be 21 years of age or older. Thus, the initial option is 21-25 years of age. From the 21-25 age bracket, the choices go up to 66+ with each case consisting of 5 years.

Gender was scaled according to either male or female responses, while education level gave five options to choose among. Education included the following five cases: 1. Some high school, 2. High school grad/GED, 3. Some college, 4. College degree, and 5. Graduate degree.

The ethnicity category used five cases as well, the first case being Asian/Hispanic. The next four categories go as follows: Black/non Hispanic, Hispanic, White/non Hispanic, and Other.

Tabulation and Evaluation of Data

The data for this study was collected in conjunction with an outside source. This source, an Internet Company, was responsible for collecting the actual number of hits to the pages and banners as well as collecting the survey information. The survey was linked to a database, which could easily collect, record and store the data, until later needed. Extra precautions were taken in the handling of the data, due in large part to the
vast amount of information that was being collected and certain privacy issues that had to be considered when dealing with The Company.

Data Analysis

Data edited, scored, coded

The data that will be collected will be categorized in the following ways. The set of data will include the total number of hits on The Company's Web pages and the total number of click-throughs to the survey page. The total visits to the Web page will then be compared against the total number of click-throughs to the survey. The data will consist of a compilation of the totals from week to week as well as throughout the entire eight-weeks. There should be no reason to edit, score or code this information.

However, other demographic information such as age, gender, education, and race will be included in the study and will subsequently be edited, scored and coded. For the purpose of this study, none of this information will be edited out of the analysis. The coding system that will be used will consist of a simple numbering system that will allow each category to be given assigned numbers according to each response. For instance, gender will be assigned either a number “1”, which corresponds to male gender responses, or a number “2”, which corresponds to female gender responses.

Age was broken down into 5-year intervals starting at 21-25 years of age. Each interval, starting with 21-25, will be assigned a number that codes for that age interval. The age category of 21-25 will be assigned the number “1” while the age category of 26-30 will be given the number “2”. This will continue up to the last age category of 66+, which will be assigned the number “10”.
Education had 5 categories to select from, which consisted of “some high school”, “high school grad/GED”, “some college”, “college degree” and “graduate college”. The category consisting of “some high school” will have the number “1” assigned to it while all of the other categories will receive subsequent numbering assignments up to “graduate college”, which will be assigned the number “5”.

Finally, race categories will be coded in much of the same way, with the first category of “Asian/Pacific Islander” having the number “1” assigned to it. The final category of this demographic information, “other”, will be given the final coding of the number “5”.

Type of analysis (percent) (correlation analysis)

For the purpose of this study, a proportions-test will be used to test the differences between the Web sites as well as between each variable. This test is based on the normal approximation to the binomial, taking sample sizes into consideration.
CHAPTER 4

RESULTS

Testing Size, Location and Animation Effects

In the following sections of this study, the results will be reported and subsequently analyzed for the purpose of testing the hypotheses of the study. Some of the other subject matter that is reported pertains to the demographic profile that was formed as a result of the data that was compiled in the study. This information will later be used as a means of comparison to previously established demographic results.

The following table illustrates an overview of the study’s results complete with variable manipulation (as described in the methodology), the number of visits and click-throughs to both the home page and contest banner, respectively, and the response rate for each individual week.
An Analysis of the Three Variables

Table 2

Overview of Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Test Week</th>
<th>S1</th>
<th>S2</th>
<th>L1</th>
<th>L2</th>
<th>An.</th>
<th>St.</th>
<th>W1</th>
<th>W2</th>
<th>B1</th>
<th>B2</th>
<th>R1</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan. 14-20</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>21,845</td>
<td>12,196</td>
<td>1,357</td>
<td>919</td>
<td>6.21%</td>
<td>7.54%</td>
</tr>
<tr>
<td></td>
<td>Jan. 21-27</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>23,166</td>
<td>14,671</td>
<td>1,582</td>
<td>1,030</td>
<td>6.83%</td>
<td>7.02%</td>
</tr>
<tr>
<td></td>
<td>Jan. 28-Feb.3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>20,295</td>
<td>14,375</td>
<td>1,086</td>
<td>924</td>
<td>5.35%</td>
<td>6.43%</td>
</tr>
<tr>
<td></td>
<td>Feb. 4-10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>19,078</td>
<td>13,304</td>
<td>1,393</td>
<td>3.38%</td>
<td>10.47%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feb. 17-23</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>21,231</td>
<td>15,989</td>
<td>1,033</td>
<td>740</td>
<td>4.87%</td>
<td>4.63%</td>
</tr>
<tr>
<td></td>
<td>Feb. 25-March 2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>18,892</td>
<td>16,191</td>
<td>668</td>
<td>701</td>
<td>3.54%</td>
<td>4.33%</td>
</tr>
<tr>
<td></td>
<td>March 3-9</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>17,789</td>
<td>14,522</td>
<td>833</td>
<td>691</td>
<td>4.68%</td>
<td>4.76%</td>
</tr>
<tr>
<td></td>
<td>March 10-16</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>17,451</td>
<td>13,898</td>
<td>927</td>
<td>664</td>
<td>5.31%</td>
<td>4.78%</td>
</tr>
</tbody>
</table>

Note. The following Key explains the variables in the top row of the above chart. S1 = Size 1; S2 = Size 2; L1 = Location 1; L2 = Location 2; An. = Animated banner; St. = Static banner; W1 = total hits to Web site #1; W2 = total hits to Web site #2; B1 = total hits to contest banner for Web site #1; B2 = total hits to contest banner for Web site #2; R1 = response rate to contest banner on Web site #1; R2 = response rate to contest banner on Web site #2.

At first glance, some of the numbers that should be quite noticeable are the visitor counts that were gathered from Web site #1 and Web site #2 from week-to-week. In total, Web site #1 attracted 44,601 more visitors than Web site #2. Likewise, there was a
significant difference in banner click-throughs between the sites. The banner located at Web site #1 collected 1,068 more hits than the banner located at site #2.

The following sections present the results obtained from the experiment, with respect to size, location, and animation. Much of the focus of the next three sections will be upon the response rates obtained from the eight weeks. More so, each of the three section will deal separately with the specific variables that were tested over the course of the experiment.

Location Variation

To make the analysis of the results easier to decipher, the weeks in Table 3 were graphically displayed out of chronological order, allowing the response rates for the locations to be grouped together. Doing so allows the user to see how each of the response rates compared from location to location. L1 symbolizes the lower right-hand side of the Web page. L2 was considered to be the lower left-hand side of the Web page. Also worth noting was that the banner locations were tested every week at the same level of the page. All that was manipulated was the side of the page where the banner appeared.

Banner 1

Table 3 shows that while on the right side of the page, banner 1 collected the following response rates: 6.21%, 3.38%, 4.87%, and 5.31%. The overall average response rate for location 1 was equal to 4.94%. Moving the banner over to the left side of the page resulted in response rates of 6.83%, 5.35%, 3.54%, and 4.68%. The average response rate for location 2 at Web site #1 showed an average of 5.10%.
Table 3

The Response Rates at Locations 1 & 2 for both Web Sites

<table>
<thead>
<tr>
<th>Test Week</th>
<th>L1</th>
<th>L2</th>
<th>Web Site #1</th>
<th>Web Site #2</th>
<th>CT #1</th>
<th>CT #2</th>
<th>R.R. #1</th>
<th>R.R. #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 14-20</td>
<td>X</td>
<td></td>
<td>21,845</td>
<td>12,196</td>
<td>1,357</td>
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<td>6.21%</td>
<td>7.54%</td>
</tr>
<tr>
<td>Feb. 4-10</td>
<td>X</td>
<td></td>
<td>19,078</td>
<td>13,304</td>
<td>644</td>
<td>1,393</td>
<td>3.38%</td>
<td>10.47%</td>
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<td>4.68%</td>
<td>4.76%</td>
</tr>
</tbody>
</table>

Note. L1 = Location #1; L2 = Location #2; CT1 = click-throughs for banner #1; CT2 = click-throughs for banner #2; R.R.#1 = response rate for banner #1; response rate for banner #2.

Banner 2

When located on the right-hand side of the property home page, the banner collected response rates of 7.54%, 10.47%, 4.63%, and 4.78%. This gives an average response rate of 6.86%. Moving the banner directly over to the left-hand side of the page showed that the banner collected response rates of 7.02%, 6.43%, 4.33%, and 4.76%. The average response rate for the left-hand side of the page equaled 5.64%.
The Significance among Samples Using Location

Hypothesis 1:

\( H^o = \) Location is not a factor in determining the overall response rate to the promotional banners.

\( H^A = \) Location is a factor contributing to the overall response rate to the promotional banners.

Table 4

Overall Proportions Test for Location

<table>
<thead>
<tr>
<th>Location</th>
<th>Visits</th>
<th>CT’s</th>
<th>R.R.%</th>
<th>( \Pi )</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location 1</td>
<td>134,992</td>
<td>7,677</td>
<td>5.68</td>
<td>0.0568</td>
<td>3.55</td>
</tr>
<tr>
<td>Location 2</td>
<td>139,901</td>
<td>7,515</td>
<td>5.37</td>
<td>0.0537</td>
<td></td>
</tr>
</tbody>
</table>

Note. Significance at .05. Visits = total number of visits to Web sites; CT’s = total click-throughs to the banners; R.R.% = response rate to the banners; \( \Pi \) = proportions test for the banners.

According to the results reported in Table 4, the z-score equaled 3.55 indicating significance in the sample proportions between sites. The overall test of proportions does not support the null hypothesis indicating that location is a factor in determining the response rate to the promotional banners.

The test for site #1 (see Table 5) gives a z-score value of 2.09. This value is just enough to conclude that there was a significant difference between the calculated proportions. The test points to the acceptance of the alternative hypothesis, which states that location is a factor in determining the response rate to the banner at site #1.
Table 5

Proportion Test for Location at Site #1

<table>
<thead>
<tr>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>Π</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location 1</td>
<td>79,605</td>
<td>3,961</td>
<td>4.97</td>
<td>0.0497</td>
</tr>
<tr>
<td>Location 2</td>
<td>80,142</td>
<td>4,169</td>
<td>5.20</td>
<td>0.0520</td>
</tr>
</tbody>
</table>

Note. Significance at .05. Visits = total number of visits to Web site #1; CT's = click-throughs to banner #1; R.R.% = response rate at banner #1; Π = proportions test for banner #1.

Table 6

Proportions Test for Location at Site #2

<table>
<thead>
<tr>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>Π</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location 1</td>
<td>55,387</td>
<td>3,716</td>
<td>6.71</td>
<td>0.0670</td>
</tr>
<tr>
<td>Location 2</td>
<td>59,759</td>
<td>3,346</td>
<td>5.60</td>
<td>0.0559</td>
</tr>
</tbody>
</table>

Note. Significance at .05. Visits = total number of visits to Web site #2; CT's = click-throughs to banner #2; R.R.% = response rate to banner #2; Π = proportions test for banner #2.

Overall, location 1 & 2 projected a z-score of 7.82 when considered together (see Table 6). The proportions appear to have a significant difference, based on location. Again, one can accept the alternative hypothesis for Web site #2.

Size Variation

The Table below (Table 7) displays the size format that was used over the course of the experiment. S1 represents the original size of the banners used on the two Web sites. The original banner size (S1) at Web site #1 measured 188x49 pixels. The reduced
S2, measured 141x37 pixels. At Web site #2, the original banner (S1) was designed to measure 220x80 pixels, while its smaller size, S2, measured 165x60 pixels.

Table 7

The Response Rates for Sizes 1 & 2 at both Web Sites

<table>
<thead>
<tr>
<th>Test Week</th>
<th>S1</th>
<th>S2</th>
<th>Web Site#1</th>
<th>Web Site#2</th>
<th>CT #1</th>
<th>CT #2</th>
<th>R.R. #1</th>
<th>R.R. #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 14-20</td>
<td>X</td>
<td>21,845</td>
<td>12,196</td>
<td>1,357</td>
<td>919</td>
<td>6.21%</td>
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<tr>
<td>Jan. 21-27</td>
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<td>1,582</td>
<td>1,030</td>
<td>6.83%</td>
<td>7.02%</td>
<td></td>
</tr>
<tr>
<td>Jan. 28-Feb.3</td>
<td>X</td>
<td>20,295</td>
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<td>924</td>
<td>5.35%</td>
<td>6.43%</td>
<td></td>
</tr>
<tr>
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<td>19,078</td>
<td>13,304</td>
<td>644</td>
<td>1,393</td>
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<td>X</td>
<td>21,231</td>
<td>15,989</td>
<td>1,033</td>
<td>740</td>
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<tr>
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<td>18,892</td>
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<td>4.33%</td>
<td></td>
</tr>
<tr>
<td>March 3-9</td>
<td>X</td>
<td>17,789</td>
<td>14,522</td>
<td>833</td>
<td>691</td>
<td>4.68%</td>
<td>4.76%</td>
<td></td>
</tr>
<tr>
<td>March 10-16</td>
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<td>927</td>
<td>664</td>
<td>5.31%</td>
<td>4.78%</td>
<td></td>
</tr>
</tbody>
</table>

Note. S1 = Size 1; S2 = Size 2; CT#1 = click-throughs to banner #1; CT#2 = click-throughs to banner #2; R.R.#1 = response rate to banner #1; R.R.#2 = response rate to banner #2.

Banner 1

At size 1, the banner collected the following response rate: 6.21%, 6.83%, 5.35%, and 4.87%. Overall, size 1 reported an average response rate of 5.44%. At size 2, the banner obtained rates of 4.87%, 3.54%, 4.68%, and 5.31%. The average response rate for the weeks at size 2 equaled 4.60%.
Banner 2

The original sized banner at Web site #2 gathered response rates of 7.54%, 7.02%, 6.43%, and 10.47%. Averaging these rates, size 1 at site #2 maintained an average of 7.87%. Size 2 attracted response rates of 4.63%, 4.33%, 4.76%, and 4.78%. The reduced banner size collected an average of 4.63%.

The Significance among Samples Using Size

Hypothesis 2:

\[ H^0 = \text{Size will not be a factor in determining the response rate to the promotional banners.} \]

\[ H^A = \text{Size will be a factor in determining the response rate to the promotional banners.} \]

Table 8

Overall Proportions Test for Size

<table>
<thead>
<tr>
<th></th>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>( \Pi )</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1</td>
<td>138,930</td>
<td>8,935</td>
<td>6.43</td>
<td>0.064</td>
<td>20.7</td>
</tr>
<tr>
<td>Size 2</td>
<td>135,963</td>
<td>6,257</td>
<td>4.60</td>
<td>0.046</td>
<td></td>
</tr>
</tbody>
</table>

Note. Significance at .05; Visits = total number of visits to Web site #1 and Web site #2; CT's = total number of click-throughs to banner #1 & banner #2; R.R.% = response rate to each banner; \( \Pi \) = proportions test for both banners.

The proportions test shows that a significant difference existed between the two proportions (\( \Pi \)) when using size as a variable. If there were no significant difference, the overall z-score would have been less than 1.96. Therefore, size is a contributing factor in the determination of response rate for both sites combined.
Table 9

Proportions Test for Size at Site #1

<table>
<thead>
<tr>
<th></th>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>Π</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1</td>
<td>84,384</td>
<td>4,669</td>
<td>5.53</td>
<td>0.055</td>
<td>8.22</td>
</tr>
<tr>
<td>Size 2</td>
<td>75,363</td>
<td>3,461</td>
<td>4.59</td>
<td>0.046</td>
<td></td>
</tr>
</tbody>
</table>

Note. Significance at .05. Visits = total number of visits to Web site #1; CT's = total number of click-throughs to banner #1; R.R.% = response rate to each size; Π = proportions test for banner #1.

The resulting z-score for site 1 was equal to 8.22. There is a significant difference between the sample proportions for size 1 & 2 at this site. This result leads to the rejection of the null hypothesis.

The proportions test (see Table 10) calculated an overall z-score of 22.39, well above the 95% confidence interval, represented by the value 1.96. Therefore, there was significance among the sample proportions for the sizes on site #2. The alternative hypothesis for site #2 is accepted as a result of the z-score.

Animation Factor

Again, to better visualize the results, the weeks were arranged out of order so as to line up the animated and static weeks of testing. In Table 11, An. represents those weeks where banner animation was present. The abbreviation St. in the table lists those weeks where the banner remained static.
Table 10

Proportions Test for Site #2

<table>
<thead>
<tr>
<th></th>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>Π</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1</td>
<td>54,546</td>
<td>4,266</td>
<td>7.82</td>
<td>0.078</td>
<td>22.39</td>
</tr>
<tr>
<td>Size 2</td>
<td>60,600</td>
<td>2,796</td>
<td>4.61</td>
<td>0.046</td>
<td></td>
</tr>
</tbody>
</table>

Note. Significance at .05. Visits = total number of visits to Web site #2; CT's = total number of click-throughs to banner #2; R.R.% = response rate to banner #2; Π = proportions test for banner #2.

Banner 1

When the banner displayed its animated features, the following response rates were recorded: 6.21%, 6.83%, 4.68%, and 5.31% (see Table 11). The average response rate for the animated banner promotion was calculated to be 5.76%. When the banner was programmed to remain static, the response rates equaled 5.35%, 3.38%, 4.87%, and 3.54%. The average rate for static banners came out to 4.29%.

Banner 2

At Web site #2 (see Table 11), the animated banner promotion received the following response rate: 7.54%, 7.02%, 4.76%, and 4.78%. The animated banners at site #2 had an average rate of 6.03%. By removing the banner animation, the banner received rates of 6.43%, 10.47%, 4.63%, and 4.33%. The average response rate for static banners at this site equaled 6.47%.
Table 11

The Response Rates for the Animated & Static Banners

<table>
<thead>
<tr>
<th>Date</th>
<th>An.</th>
<th>St.</th>
<th>Web Site #1</th>
<th>Web Site #2</th>
<th>CT #1</th>
<th>CT #2</th>
<th>R.R. #1</th>
<th>R.R. #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 14-20</td>
<td>X</td>
<td></td>
<td>21,845</td>
<td>12,196</td>
<td>1,357</td>
<td>919</td>
<td>6.21%</td>
<td>7.54%</td>
</tr>
<tr>
<td>Jan. 21-27</td>
<td>X</td>
<td></td>
<td>23,166</td>
<td>14,671</td>
<td>1,582</td>
<td>1,030</td>
<td>6.83%</td>
<td>7.02%</td>
</tr>
<tr>
<td>March 3-9</td>
<td>X</td>
<td></td>
<td>17,789</td>
<td>14,522</td>
<td>833</td>
<td>691</td>
<td>4.68%</td>
<td>4.76%</td>
</tr>
<tr>
<td>March 10-16</td>
<td>X</td>
<td></td>
<td>17,451</td>
<td>13,898</td>
<td>927</td>
<td>664</td>
<td>5.31%</td>
<td>4.78%</td>
</tr>
<tr>
<td>Jan. 28-Feb.3</td>
<td>X</td>
<td></td>
<td>20,295</td>
<td>14,375</td>
<td>1,086</td>
<td>924</td>
<td>5.35%</td>
<td>6.43%</td>
</tr>
<tr>
<td>Feb. 4-10</td>
<td>X</td>
<td></td>
<td>19,078</td>
<td>13,304</td>
<td>644</td>
<td>1,393</td>
<td>3.38%</td>
<td>10.47%</td>
</tr>
<tr>
<td>Feb. 17-23</td>
<td>X</td>
<td></td>
<td>21,231</td>
<td>15,989</td>
<td>1,033</td>
<td>740</td>
<td>4.87%</td>
<td>4.63%</td>
</tr>
<tr>
<td>Feb. 25-March 2</td>
<td>X</td>
<td></td>
<td>18,892</td>
<td>16,191</td>
<td>668</td>
<td>701</td>
<td>3.54%</td>
<td>4.33%</td>
</tr>
</tbody>
</table>

Note. An. = animation; St. = static; CT #1 = click-throughs to banner #1; CT #2 = click-throughs to banner #2; R.R. #1 = response rate to banner #1; R.R. #2 = response rate to banner #2.

The Significance of Animation

Hypothesis 3:

\( H^o = \) Animation is not a factor in determining the overall response rate to the promotional banners.

\( H^A = \) Animation is a contributing factor to the overall response rate to the promotional banners.

The overall z-score for Table 12, was calculated to be 10.67. Considering both banners (1 & 2), the test of proportion showed significant differences in the sample populations. Being consistent allows one to reject the null hypothesis.
Table 12

**Overall Proportions Test for Animation**

<table>
<thead>
<tr>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>( \Pi )</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animated</td>
<td>135,538</td>
<td>8,130</td>
<td>5.99</td>
<td>0.0599</td>
</tr>
<tr>
<td>Static</td>
<td>139,355</td>
<td>7,062</td>
<td>5.06</td>
<td>0.0506</td>
</tr>
</tbody>
</table>

**Note.** Significance at .05; Visits = total number of visits to both Web sites; CT's = total number of click-throughs for both banners; R.R.% = response rate to the banners; \( \Pi \) = proportions test for the banners.

At 13.93, the z-score at Table 13 shows there is a significant difference in the populations between banners. Once again, this score supports the alternative hypothesis at this particular site.

Site #2 in Table 14 showed that its click-throughs (CT's) to visits managed a z-score of 2.12. This is just enough to be able to acknowledge a significant difference among the populations. The z-score results in the overall rejection of the null hypothesis.

**Demographics (Internet profiles)**

The following information displays the results of the demographic information that was collected from the survey. Specifically, the survey collected information regarding age, gender, educational background, and ethnicity. An analysis of this information will allow this study to develop a profile of the subjects that responded to the survey. This information will then later be used to compare with other previously collected profiles.
Table 13

Proportions Test for Animation at Site #1

<table>
<thead>
<tr>
<th></th>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>Π</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animated</td>
<td>80,251</td>
<td>4,699</td>
<td>5.85</td>
<td>0.0585</td>
<td>13.93</td>
</tr>
<tr>
<td>Static</td>
<td>79,496</td>
<td>3,431</td>
<td>4.32</td>
<td>0.0432</td>
<td></td>
</tr>
</tbody>
</table>

Note. Significance at .05; Visits = total number of visits to Web site #1; CT’s = total click-throughs to banner #1; R.R.% = response rate to banner #1; Π = proportions test for banner #1.

Table 14

Proportions Test for Animation at Site #2

<table>
<thead>
<tr>
<th></th>
<th>Visits</th>
<th>CT's</th>
<th>R.R.%</th>
<th>Π</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animated</td>
<td>55,287</td>
<td>3,304</td>
<td>5.98</td>
<td>0.0598</td>
<td>2.12</td>
</tr>
<tr>
<td>Static</td>
<td>59,859</td>
<td>3,758</td>
<td>6.28</td>
<td>0.0628</td>
<td></td>
</tr>
</tbody>
</table>

Note. Significance at .05. Visits = total number of visits to Web site #1; CT’s = total click-throughs to banner #2; R.R.% = response rate to banner #2; Π = proportions test for banner #2.

Table 15 explains the age of the visitors that filled out question #17 from the survey, which was linked to the banner promotions on each of the Web sites. The frequency represents the total visitor count from week one to week eight and their respective age. Besides the frequencies for each age category, the figure also gives the percentage of the whole (including missing values), the valid percentage (excluding missing values), and the cumulative percentages (total percentage, valid percentage, and
cumulative percentage will remain categories throughout each of the other demographic figures).

Table 15

Age Distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-25</td>
<td>752</td>
<td>8.2</td>
</tr>
<tr>
<td>26-30</td>
<td>1,157</td>
<td>12.6</td>
</tr>
<tr>
<td>31-35</td>
<td>1,207</td>
<td>13.1</td>
</tr>
<tr>
<td>36-40</td>
<td>1,271</td>
<td>13.8</td>
</tr>
<tr>
<td>41-45</td>
<td>1,372</td>
<td>14.9</td>
</tr>
<tr>
<td>46-50</td>
<td>1,341</td>
<td>14.6</td>
</tr>
<tr>
<td>51-55</td>
<td>1,093</td>
<td>11.9</td>
</tr>
<tr>
<td>56-60</td>
<td>515</td>
<td>5.6</td>
</tr>
<tr>
<td>61-65</td>
<td>295</td>
<td>3.2</td>
</tr>
<tr>
<td>66+</td>
<td>205</td>
<td>2.2</td>
</tr>
<tr>
<td>Total</td>
<td>9,208</td>
<td>100</td>
</tr>
</tbody>
</table>

As you can see from Table 15, most of the data can be found from the 26-30 age interval to the 51-55 age interval. The highest frequency response was collected in the 41-45 age bracket, which represented nearly 15% of the whole. The next highest number of responses was in the 46-50 age interval. This category took in 14.6% of all the responses. The percentage of response to the older age levels then drops off from 11.9% to 5.6%, going from the 51-56 age group to the 56-60 age group, respectively. The rest of
the data was evenly distributed from ages 26-30 (12.6%) to the 36-40 (13.8%). The lowest age group (2.2%) consisted of those at or above 66 years of age.

Table 16

**Gender Difference**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4,716</td>
<td>51.8</td>
</tr>
<tr>
<td>Female</td>
<td>4,395</td>
<td>48.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,111</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 16 represents the gender of the individuals who filled out the gender question used in the survey. Of the 9,111 responses, 4716 were male, while females accounted for 4,395 of the total. Males made up for 51.8% of the responses, leaving the remaining 48.2% as females.

Table 17

**Level of Education**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some High School</td>
<td>102</td>
<td>1.1</td>
</tr>
<tr>
<td>High School Grad/GED</td>
<td>1,248</td>
<td>13.6</td>
</tr>
<tr>
<td>Some College</td>
<td>3,405</td>
<td>37.1</td>
</tr>
<tr>
<td>College Degree</td>
<td>3,268</td>
<td>35.7</td>
</tr>
<tr>
<td>Graduate School</td>
<td>1,143</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,166</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
The largest percentage of responses indicated having "Some college" as their educational background. "Some College" accounted for 37.1% of the responses. The second highest percentage consisted of those actually with a college degree (35.7%). The lowest percentage of surveys came from those having "Some High School", which described 1.1% of the subjects involved in the contest.

Focusing on the ethnic background of the respondents, Table 18 shows that White, non Hispanics made up 84.1% of the surveys. The next highest ethnic background that described the respondents was that of the Asian/Pacific Islander, making up 5.6% of the whole. Next to the "Other" category, Black, non Hispanic included the least percentage of those who responded to the survey.

Table 18

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Pacific Islander</td>
<td>512</td>
<td>5.6</td>
</tr>
<tr>
<td>Black/non Hispanic</td>
<td>278</td>
<td>3.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>415</td>
<td>4.6</td>
</tr>
<tr>
<td>White, non Hispanic</td>
<td>7,671</td>
<td>84.1</td>
</tr>
<tr>
<td>Other</td>
<td>242</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>9,118</td>
<td>100.0</td>
</tr>
</tbody>
</table>
CHAPTER 5

DISCUSSION

Location

The Effects of Location at Web Site #1

Focusing the first part of this discussion on site #1 reveals that when placed at location 2, the banner had a slightly higher response rate (5.10%) than when placed at location 1 (4.94%). The "eye movement across a two-page menu" identified in the literature review (Bowen & Morris, 1995), might be useful in explaining the observations regarding location at site #1. Again, this eye movement theory, which was found to be inconclusive by Bowen & Morris (1995), is based on the proposition that the manner or pattern, in which people read a page, tends to be somewhat predictable.

To make a meaningful comparison to what was found, one can assume that viewers visualize a one-page menu design, with menu items listed from top to bottom on both the right and left sides of the menu, in much the same manner as they (the viewer) would the two-page layout. Their (Bowen & Morris, 1995) research on eye movement across a two-page menu states that viewers typically begin their investigation of the layout at the upper right-hand side of the menu. It follows that viewers then move from this upper right-hand corner across to the left side, down the left side and either diagonally back across to the upper right-hand corner or directly across to the lower right-hand corner and back to the top right-hand corner of the menu (figure 1).
The basic layout eye-movement assumptions may be used to explain the results of the observation seen in this test. In the end, the results follow the general pattern hypothesized by Bowen & Morris (1995). Inferring that viewers see items placed upon a Web page in much the same way as a menu, one would suspect the viewer to notice the banner on the lower left-hand side of the page more often than on the lower right-hand side of the page. This was exactly what occurred when testing the location of the banner ad over the eight-week testing period. Although the response rate was not substantially larger on the left side than on the right, it is possible that over time, these percentages could further separate from each other towards location #2.

**The Effects of Location at Web Site #2**

At site #2, the response rate to the banner, when placed on the right-hand side of the page, was 1.24% greater than when located on the left-hand side of the page. This data refutes the findings of Ellis & Miller (1981), who stated that in print advertising, ads organized with verbal information on the right side and pictorial information on the left are preferred to the opposite layout and design. Web site #2 was designed so that no matter where the banner was located, verbal information was always located on the left side of the page.

In view of the overall effects of location, as a factor in the determination of response rate, the tests of banner location prove to be inconclusive, much like the findings of Bowen & Morris (1995). The test at site #2 pointed out that the left side of a Web page is not better in obtaining an optimal response rate than the location to the right. The variable location falls under the entire definition of layout and design. There are other factors that are included under the subject of layout and design such as text, color,
illustrations, overall format or layout, etc. Since location, itself, was shown to be inconclusive, with regards to its effects on response rate, other factors under the layout and design may be seen as having more of an effect than just location. As a whole, page layout as opposed to just banner location, could have the most dramatic impact on the overall response rate to other banner ads.

Animation

The Effects of Animation at Web Site #1

Comparing the animated banner to the static banner at site #1 shows that animation has a positive impact in the determination of the response rate to the contest banner. Animating the banner gave it an average response rate of 5.76%, while only an average of 4.29% when it remained static. These percentages proved to be significantly different regarding the relationship between the animated banners, the static banners, and response rates. The results from site #1 suggest that a relationship exists between the animation variable and the response rate. This relationship substantiates the acceptance of the alternative hypothesis, which states that animation is a contributing factor in the overall response rate to a banner.

The Effects of Animation at Web Site #2

These results act in a supporting manner to Zeff & Aronson's (1999) statement that the use of animation tends to pull a higher response rate when compared to a static banner. However, these same results were not observed for site #2. Instead, the animated banner witnessed a lower response rate (6.03%) than when static (6.47%).
Again, the proportions test indicated the existence of a relationship when testing the click-throughs to the populations. The relationship seen at site #2 happened to be inconclusive. These findings do however act in support to the finding of those in http://www.bannertips.com/bannerTips1999-09.shtml.

The experiment performed at this site (Bannertips.com) discovered that static headlines pulled even better click-through rates than the animated headline. It was reported that this observation came about as a result of download speed. Having a smaller byte size allowed the headline to load 2.7x faster than the animated headline.

A Difference in Animation

It is probably worth noting that the banners possessed different promotional designs. The banner at site #1 contained a set of dice that flashed when the animation effects were instituted. Site #2 contained a banner that included the design of an animal. These designs might have directly influenced the response to the banners themselves. When the banners were static, all that was displayed on the banner at site #1 was that of a pair of dice, whereas the static banner placed on site #2 contained an attractive animal.

This could be beneficial to Web marketers unsure of the effects of animation on their banner presentations. Banner presentation, in terms of the graphics used in the advertising efforts, could give marketers another avenue to pursue in their attempts to gain increased response rates their respective banner promotions or advertisements.
Size

**Size Differences between Web Sites**

Although the test of proportions gave statistical significance at each of the sites separately, the evidence could not be used to conclude that size was in fact a determinant in the response rate as defined in this study. The reason for the exclusion of size is due to the fact that size, as a variable, did not remain constant from site #1 to site #2. As was mentioned earlier in the paper, the sizes used at site #1 were measured at 188x49 and 141x37. At site #2, the banners measured 220x80 and 165x60.

Looking at the size proportions for each of the banners, calculations show that the original banner used at site #2 measured 17,600 square pixels, whereas the original size used at site #1 measured just 9,212 square pixels. Therefore, the original sized banner #2 was almost twice the size of the original banner #1. The size discrepancy might be able to explain the significant difference in response rates from site #1 to site #2.

At Web site #2, the original banner received a response rate equal to 7.87% as compared to a 5.44% for the original sized banner at site #1. During the fourth week of the experiment, the original banner at Web site #2 collected an astounding 10.47% of those visiting the Web site. This effect carried over into the smaller banner sizes as well. The overall response rate at the reduced size witnessed a higher percentage at site #2 (4.63%) when compared to the reduced sized banner at site #1 (4.60%).

Unfortunately, the size differences between the sites were not caught in time, as the experiment was more than halfway completed when the problem was brought to attention. Therefore size cannot be discussed when comparing the two Web sites and the results should remain inconclusive as to the proposed relationship between size and response to the banner promotions.
At the site level, size is still worth discussing for the purpose of supporting the hypothesis that size is a factor in the overall response rate of banner promotions. Although made for discussion, keep in mind that each of the sites has no means of comparison and should only be considered in theory, and not factually.

**The Effects of Size at Web Site #1**

With respect to size, the results from site #1 support the notion that a larger sized banner promotion is more effective in collecting a response to that promotional banner when compared to a smaller banner. Having a larger size at 188x49 pixels allowed the banner to average a response rate of 5.44%. Reducing the size to 141x37 pixels led to an overall decrease in the average response rate (4.60%) at this site.

Of the three variables that were tested, size seems to make the most sense regarding its effect on response rate. It seems most logical to assume that a larger item, whether it is an advertisement or a banner promotion placed on a Web page, would collect a greater response rate. The question that should come out of this test refers to how large or small an item can be without jeopardizing viewer interest.

The data gathered in this study supports the observations made by Strong (1918) in one of his pioneering studies regarding advertising size and its effect on the memory of those advertisements by experimental subjects. Specifically, when the subjects were exposed to different sized ads once, the percentage of those who remembered the ads increased in direct relation to the increasing size of those ads. This phenomenon is similar to what was generally observed in the above study. As the size of the promotion increased, so did the direct response rate to that promotion.
The Effects of Size at Web Site #2

Analyzing site #2 reveals a similar observation. It is once again clear that the larger size played more of a role in positively effecting the response rate to the banner promotions. When the banner measured 220x80 pixels, it had an average response rate of 7.87%, while only collecting an average response rate of 4.63% at its reduced size of 165x60 pixels.

The similar logic that was applied to site #1 may also be applied to site #2. As the size of a particular banner increases so should the response rate to that banner. One key aspect of a Web home page is its limited space of availability. Strong (1918) first witnessed this event when he compared the number of times an advertisement was seen to the space that was available to the test. In the end, Strong discovered that a ½-page space is not twice as efficient as a ¼-page space but only 41% more efficient. Strong’s test pertains to this study in that Web designers need to be aware of page efficiency. As Strong points out, an increase in recognition is in fact associated with an increase in size, but this relationship is not proportional. Therefore Web designers need to weigh the cost of increasing the size of an ad with those associated to providing an adequate amount of information regarding the product. If too much space is wasted on the promotion of a new special or attraction, the overall result could be a detraction from the overall interest in the product that the company is originally trying to sell, such as hotel rooms.

The Larger the Size, the Higher the Response Rate

One of the more interesting findings in this study pertains to both size and the overall response rate to the banner located at site #2. The banner, which measured 220x80 pixels, ended up having the largest average response rate (7.87%) of all the
variables included in this study. In fact, the larger banners on site #2 received a greater response rate after combining both of the factors at a time and finding the average. These observations show to some extent exactly how the effectiveness of size, as a variable, influences response rate. When determining how to achieve better market success, size should be a consideration in the development of a successful marketing program.

Competing Promotional Ads

During the testing period, other competing promotional items were located on the page. These promotions were positioned slightly lower than the banner, which ran on this page. One promotion advertised the chance to win a large amount of money with the pull of a slot. The ad was animated in such a way, that some of the word scrolled across the area where the item was placed, whereas some of the other text describing the promotion, flashed upon the screen.

Another promotion that was placed on Web site #1 was a boxing advertisement that appeared during the 5th week of the contest banner. This particular ad was placed to the left but at the same level as the contest banner. The size of the ad was slightly larger than the banner that week. It consisted of textual explanation along with a picture illustrating the fighters in the boxing event.

A third addition to the page over the course of the experiment was that of a phone number to call to obtain more information regarding room reservations. This number was displayed in the top right corner of both Web sites in colorfully bold text.

These promotions might have been considered to be limiting factors in the collection of data, thus detracting from the total number of click-throughs that might have
occurred over the testing period. The Web sites used in this study were under the
ownership of an outside company, with other priority and concerns, thus limiting what
could be held constant throughout the study.

A Discussion of Respondent Demographics

Demographic Profile

Upon analyzing the demographic results obtained from the survey, a profile can
be formed describing the average survey respondent to the two banner promotions. This
might be of some interest to Web marketers who desire to know whom they are
marketing their efforts toward. Furthermore, profiles help in the adjustment of these
marketing efforts by forming strategies around these descriptions of people who are
interested in the product or promotion. These people may be generally referred to as a
company’s target market.

Age Profile

Age was the first bit of demographic information that was recorded. The
following (figure 5) illustrates the distribution of ages reported in the survey results.
Figure 6. Age Distribution (%)

A simple explanation of Figure 6 shows the x-axis to represent the ten age groups that were used to describe the respondents to the survey. Each group is a percentage out of 100. The average age of the subject is somewhere between the ages of 41-45 years of age. A possible inference for this observation may lie in the notion that, typically, this age group has a bit more disposable income than the younger viewers and according to Zeff & Aronson (1999) still has some interest in the internet comprising 10.1% of those going on-line. The point involving disposable income is significant because this survey was linked to a hotel/casino Web site. Therefore, this age group might be slightly more interested in taking advantage of their income status and trying their luck in a casino setting.

Gender Profile

The next demographic interest pertained to gender. The survey responses indicate that there was almost a 50:50 ratio of men (51.8%) to women (48.2%) answering the surveys. This ratio of men to women is slightly less than what Zeff & Aronson (1999)
reported. They (Zeff & Aronson) found that men were more interested than women by a count of 61.3% to 38.7%, respectively. However, Zeff & Aronson note that the results obtained from their study date back to April of 1998 and respond that the number of women using the Internet is increasing annually.

**Educational Profile**

With regards to the level of education, it was generally seen that having at least some college experience was most typical of the average respondent to the contest. 72.8% of those responding to the survey had at least some college or a college degree. This seems logical with the popularity of the Web increasing throughout institutions and in the technical world, where, generally speaking, these jobs require some form of a formal education.

**Ethnic Profile**

The last piece of demographic information that was collected referred to the ethnic background of those entering the promotional contest. By far the most substantial background represented was that profiling a white, non Hispanic. This again is consistent with the finding at Georgia Tech (www.gvu.gatech.edu/user_surveys). In this particular survey, Whites made up 87.40% of those responding to the institution's respective survey.

According to Zeff & Aronson (1999), much of the issue of race comes down to the issue of "accessibility and acceptance" (Zeff & Aronson, 1999, p.194). They go on to state that Internet access is dependent on Personal Computer availability. Therefore, if one can't afford a computer or the monthly service charge for an ISP, then the Internet remains inaccessible, thus involving the key factor of economics.
Comparing Demographic Profiles

The following section compares the demographic responses of the contest survey used in this study with two other established survey collections. The surveys used include demographic information from the 1998 Las Vegas Visitors and Convention Authority report and the 1998 GVU Center survey from the College of Computing at Georgia Institute of Technology.

Comparison by Age

The following figure compares the age distribution of those involved in the contest survey with those found from the LVCVA's annual (1998) profile study. For the purpose of obtaining a better understanding, both surveys were illustrated using the same age intervals. The plot levels on the left represent the responses to the promotional survey, whereas the plot levels on the right represent the results obtained by the LVCVA.

![Age Comparison Chart]

Figure 7. Age Comparison

Figure 7 shows that most of the ages were distributed toward the lower half of the graph from the 21-25 to the 41-50 age groups. The LVCVA's information is actually quite evenly distributed across the graph with 50% representing the groups from 21-50
and the other 50% from 51-66+. The average age for the survey was calculated using a median age. This median was found to be 42.5, whereas the average age of the LVCVA survey was found to be 49.2 years of age.

These results tend to be somewhat higher than what was found by the 1998 GVU survey. With regard to the entire sample, the GVU survey received an average age of 37.6 years, indicating that the age of those using the Internet are younger than those individuals interested in the Las Vegas market from both the visitors and Internet standpoint. Also worth noting are GVU's findings that as the skill level of the Internet user decreases, the average age of the individual increases. This tells us that increasing numbers of older age groups are being introduced to the Internet (http://www.gvu.gatech.edu/user_surveys).

**Comparison by Gender**

![Comparison by Gender](image)

**Figure 8. Gender Comparison**

Figure 8 gives a comparable representation of gender responses between the two sources. The Figure shows that the ratio of male to female respondents is almost equal.
to the LVCVA's findings, which had a slightly higher percentage of females than males, while just the opposite trend is seen to occur in this study.

When compared to the survey performed by GVU, the contest and the LVCVA surveys found a lower ratio of males to females. In the United States, the GVU found that women made up approximately 36% of the total number of respondents, while the percentage of females using the Internet dropped to approximately 20% and 25% for Europe and "Other", respectively (http://www.gvu.gatech.edu/user_surveys).

**Comparison by Education**

The following graph shows the percentage of those who can be described as having; (1) High School or Less, (2) Some College, (3) College Graduate. For the purpose of comparing the two surveys, this study added the category of "Some High School" with "High School Grad/GED", while excluding the category "Graduate Degree".

![Educational Comparison Graph](http://www.gvu.gatech.edu/user_surveys)

**Figure 9. Educational Comparison**

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Looking at Figure 9, one may conclude that the respondents to the survey conducted in this study typically had the opportunity to complete a higher level of education that the respondents to the LVCVA’s survey. Most of the LVCVA’s respondents were around High School or Less and Some College, while this study received more of percentage of those with Some College and College Graduate. If the Graduate School percentage had been included, this trend would be even more pronounced toward the higher average educational levels.

The GVU’s survey work tends to parallel the finding of the contest survey showing a higher percentage of users having obtained some college or a college degree. Specifically, the GVU survey indicated that 87.8% of the respondents to have at least some college experience with 59.3% having completed at least one college degree (http://www.gvu.gatech.edu/user_surveys).

The same consistency, with regards to the findings of the GVU survey, is seen between the visitors who come to Las Vegas with those who visit Las Vegas via the Web. That is, visitors are typically White, non Hispanic. The only other notable differences that exist were between the Black, non Hispanic respondents. In this study, the Black, non Hispanic category made up only 3% of the whole, while Black, non Hispanic accounted for 7% of the respondents to the LVCVA survey.
Much like the finding in the contest survey and LVCVA survey, the GVU survey found the respondents to be predominantly white, accounting for 87.2% of the total number of responses. Like the LVCVA survey, the GVU found that black, non Hispanic made up the second highest number of responses, accounting for nearly 2.75% of the total survey (http://www.gvu.gatech.edu/user_surveys).

With respect to age, gender, and ethnicity, the data collected by the two surveys were quite comparable, almost equaling each other in these respective categories. In the education category it was not surprising to find out that the on-line respondents tended to have, on average, a higher education level as compared to the typical Las Vegas visitor.

Even when looking at the everyday Internet users, the contest survey, for the most part, matched the findings of GVU with respect to education and race. However, when
comparing the age and gender of the respondents, the contest survey found a lower ratio of male to female respondents. The contest survey also found that the age of those visiting the two Web sites to be higher than the everyday Internet user.

Due to certain restrictions, this study was unable to compare the survey demographics to the two hotel/casino customer profiles. Management, particularly casino management, might want to consider making this comparison. Such a comparison would benefit management in the way of knowing whether there is a viable Web interest in their gaming product. If so, marketing efforts should be aimed to target and subsequently welcome the Internet demand.

Implications for Future Research

In the end, some basic implications can be made, regarding the future of this study. As more and more people continue to manifest their interest in conducting business on-line, there is a need to further research this subject of Internet marketing. Web marketers will be required to fully understand the dynamics of their respective Web pages, and what they can manipulate to increase not only their on-line awareness, but more importantly, their e-commerce revenue. Like traditional forms of advertising, elements of Web pages need to be rigorously tested to determine the right combination of variables that attract the optimal response rates.

One of the limitations that should be addressed, for future research, refers to the level of the page that this study was able to perform the tests upon. Due to the concerns of The Company, regarding the exposure of other Web page buttons (i.e. room reservations), this study was limited to the lower portion of the Web page. It might be
very interesting to see if this is indeed a factor that could influence the results of a similar study. A hypothesis could be formulated to say that the response rate to an item placed on a Web page is dependent on the level of the page where that item is placed.

When a page from the World Wide Web is first downloaded, the first items to come into view are those positioned toward the top of the page. Therefore, one could assume that those items, which appeared without having to make use of the scroll bar, would have a higher response rate than those items located toward the bottom of that page.

Another viable path for future studies lies in the understanding of how animation effects other Web page characteristics besides banner ads. Although it was not very clear why the animated banner at site #2 was outperformed, in terms of response rate, by the static banner promotion.

How do graphics enhance the attractiveness of a banner advertisement? As mentioned in the discussion, animation did not produce strong results in the determination of response rates, but animation did raise a question concerning why it was outperformed by a static banner when located at site #2. This might have had something to do with the design of the banners. The banner promotion with the animal upon it had a greater response rate than the banner containing a pair of dice.
Conclusion

When comparing the three variables, location, size, and animation, to the response rate of a banner contest, only one variable achieved what it had set out to accomplish. Size managed to have an overwhelming positive influence on the response rate to the respective banners, while location failed to attain any sort of consistency in its efforts to increase the response rate. Animation remains somewhat of a mystery when looking at the results in this research. The test is not consistent from site to site as the static banner outperformed the animated banner that placed on site #2.

Therefore, it is necessary to further test these variables to see how they contribute to the response rate under different conditions. Specifically, size needs to be directly tested under the current conditions that this experiment was conducted, as the results of this study could not be used for size.
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