# Effects of Interactive Versus Non-Interactive Communication

## A Senior Honors Thesis

Presented in Partial Fulfillment of the Requirements for graduation with distinction in Communication in the undergraduate colleges of The Ohio State University

by

# Kristen Coffaro

The Ohio State University November 2006

Project Advisor: Assistant Professor Samuel D. Bradley, School of Communication

Abstract: Companies and organizations frequently send communications in both electronic and hard copy format. This duplication would be unnecessary if one method was shown to be superior to the other. This thesis displays strong benefits for using interactive electronic communication rather than non-interactive forms, including hard copy and static correspondence. Participants viewed eight advertisements (two non-interactive advertisements that were measured as non-arousing, two interactive advertisements that were measured as non-arousing, two non-interactive advertisements that were measured as arousing, and two interactive advertisements that were measured as arousing). Participants' heart rate and skin conductance were measured during the experiment. They then underwent free-recall and recognition tests to measure encoding and storage of information. The results show that participants pay more attention to interactive advertisements and remember them better.

Keywords: Interactive, non-interactive, advertisements, communication, arousing, non-arousing, attention, arousal, memory, physiological, e-mail

### CHAPTER 1

### INTRODUCTION

Recently companies have been sending both non-interactive ads through the mail, e-mail or Internet, and then sending similar interactive ads through e-mail or the Internet (e.g., Victoria's Secret, American Express). Some of the ads that are sent via e-mail or on Web sites are interactive, so the customer can explore the various products and services. Some of the ads are identical to print ads, in that they are non-interactive and do not allow the customer to communicate directly with the company or its products and services. This raises the question of why a company would invest in both types of ads, which often reach the same customer twice. Is one type of ad more engaging or arousing, and thereby more memorable, than another? Does one make the customer remember the company more than the other? Furthermore, can these questions reasonably be addressed by social scientific theories of cognition and persuasion? Initial research suggests interactivity affects different audiences differently. Interactivity served to increase information processing in participants with low need for cognition; and for those with high need for cognition, it showed relatively little effect (although previous studies suggested this) (Sicilia, Ruiz, & Munuera, 2005).

Empirical research is needed to assess which type of ad is more effective. It is inefficient for companies to spend money or time on both types of ads if one can be shown to be superior in terms of information retained and attitude change. Companies – and public agencies interested in

persuasive communication – should invest their time and resources into the most effective and efficient communication and advertising.

There are practical reasons why companies would consider advertising in multiple media. The digital divide is a reality, wherein citizens of different socio-economic classes have very different access levels to the Internet (Bucy & Newhagen, 2004). Thus, some people do not have access to the Internet or e-mail. Of those people who do have access, some may be leery of interactive advertisements because those people believe that the ads contain viruses or use spyware. However, Internet adoption has far outpaced any previous medium (e.g., television and radio), and consumers are quickly becoming more accepting (Belch & Belch, 2004). This suggests that in the near future the majority of consumers are ready for this type of advertising. This research addresses the psychological dimensions of processing these ads and suggests ways to make the ads more memorable and persuasive. The current study is designed to both advance theories of mediated message processing and provide practical advice to industry. In addition to corporations, these findings are relevant to governmental agencies that use the Internet to target people with public health campaigns.

## CHAPTER 2

### LITERATURE REVIEW

## Hypotheses

Several studies have explored the *limited capacity model of mediated message processing* (Lang, 2000), which makes predictions that people allocate cognitive resources to accomplish certain tasks. Certain structural features – such as animation within Web pages (Lang et. al., 2002) – elicit an orienting reflex, which leads to automatic allocation of cognitive resources to the task of encoding. Previous research has shown that mediated messages that are better encoded are better recognized (e.g., Grabe, Lang, & Zhao, 2003). These orienting reflexes, or ORs, are marked by a short-term cardiac deceleration (Graham, 1979). Furthermore, mediated messages that elicit greater attention (i.e., controlled allocation of resources) often show a sustained slowing of heart rate over time (Lang, 1994). Recent research applied the limited-capacity model to pop-up ads, which present sudden and expected changes in the visual field, and found that this type of ad resulted in a sustained deceleration of heart rate (Diao & Sundar, 2004). Interactive ads resemble pop-up ads in the fact that they result in sudden changes of the visual field with a single click.

Thus, according to this previous research, it is predicted that:

H1: Participants will pay greater attention toward interactive ads than non-interactive ads.

In addition to structural features of communication, content also has an effect on attention (Lang, 1990). Therefore, it is predicted that:



You Dare Dreading Da Opreview. DWould Dyou Dlike Dlo Daccess Dlhe Dlull-text?

Access ull-text

# APPENDIX C BRAND NAMES, SLOGANS, LOGOS AND PRODUCT CATEGORIES

Brand Name	Logo	Slogan	Product
			Category
Rujen		Business Everywhere.	PDA
Pangle		Hear the world.	Cell Phone
Menard		Captured.	Digital Camera
Luckive	<b>©</b>	For every room. For everyone.	Flat Screen/Microwave Combo
Hupsic		Home. School. Work. We're here.	Laptop
Kanden	nothing.no	Nothing else needed.	Stereo
Eclogue		Record.Rewind.Replay.Life	Video Camera
Vitep		Vital for now. Vitep for life	Personal Computer

Figure 4
Brand names, logos, slogans and product categories

### LIST OF REFERENCES

- Belch, G. E, & Belch, M. A. (2004). Advertising and Promotion: An Integrated Marketing

  Communications Perspective, Sixth Edition. The McGraw Hill Companies.
- Bradley, M. M., Codispoti, M., Cuthbert, B. N., & Lang, P. J. (2001). Emotion and motivation I: defensive and appetitive reactions in picture processing. *Emotion*, 1, 276-298
- Bradley, S. D., & Meeds, R. (2002). Surface-structure transformations and advertising slogans:

  The case for moderate syntactic complexity. *Psychology & Marketing*, 19(7-8), 595-619.
- Bucy, E. P., & Newhagen, J. E. (Eds.). (2004). *Media access: Social and psychological dimensions of new technology use*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Diao, F., & Sundar, S. S. (2004). Orienting response and memory for Web advertisements:

  Exploring effects of pop-up window and animation. *Communication Research*, 3 (5),
  537-567
- Grabe, M.E., Lang, A. & Zhao, X. (2003). News Content and Form: Implications for Memory and Audience Evaluations. *Communication Research*, 30 (4), 387-413
- Graham, F. K. (1979). Distinguishing among orienting, defense, and startle reflexes. In H. D. Kimmel, E. H. Van Olst & J. F. Orlebeke (Eds.), *The orienting reflex in humans*, 137-167
- Lang, A. (1990). Involuntary Attention and Physiological Arousal Evoked by Structural Features and Emotional Content in TV Commercials. *Communication Research*, 17 (3), 275-299
- Lang, A. (1994). What Can the Heart Tell Us About Thinking? In A. Lang (Ed), *Measuring* psychological responses to media, 99-111

- Lang, A., Borse, J., Wise, K., David, P. (2002). Captured by the World Wide Web: Orienting to structural and content features of computer-presented information. *Communication Research*, 29, 215-245
- Sicilia, M., Ruiz, S., & Munuera, J. L. (2005). Effects of interactivity in a Web site. *Journal of Advertising*, 34(3), 31-46