

Taming the Information Beast: Content Customization and Its Impact on Media Enjoyment for Online Consumers

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Abstract

As technologies continue to evolve, customized online environments are becoming evermore popular with consumers as they help manage information flow in the online space while limiting exposure to advertising. This study examines the effect of customization, desire for control, and information overload on media enjoyment. Level of customization has a positive impact on a consumer's media enjoyment regardless of their desire for control or feelings of information overload. High desire for control subjects exposed to keyword advertising had the greatest media enjoyment. Non-intrusive keyword advertising did not impede media enjoyment while the presence of banner advertising did effect media enjoyment.

Keywords: Customization, interactive advertising, media enjoyment, RSS

Introduction

Although the trend to customize media messages has existed as early as personalized letters, the interactive nature of the Internet has transformed the concept of customization by allowing users to receive information tailored to an individual user's interests and preferences (Lavidge 1999; Ansari & Mela 2003). In essence, customization allows individuals to be in charge of their own online experience. As such, advertisers and marketers are looking to this space to promote products in a context that is both relevant for and designed by the consumer.

Advertising and marketing practitioners have recognized that media fragmentation has the ability to target specialized segments of consumers. Past research in advertising effectiveness has often identified this practice as niche marketing, market segmentation, or target marketing (Kumar & Rust 1989; Grier & Brumbaugh 1999). However, the concept of customization moves to a deeper level due to its focus on the individual user. The basic premise of customization is simple: "every user is an audience of one because each user receives distinct content" (Kalyanaraman & Sundar 2006, p. 110). In user modeling literature, customization is based on "adaptive interfaces" that adapt to an individual user's needs or preferences (Alpert et al. 2003).

In an online environment, a customized interface is a system that modifies itself based on input provided by the user. The interface then provides information tailored to the specific individual (Kobsa et al. 2001). Unlike personalization, customization is a highly user-driven process (Nielsen 1998). The content a user encounters on a website is a direct function of his interaction with the website in the sense that the messages are contingent upon the user's action. The result is a unique mix of information customized for individual users (Sundar 2007).

The concept of customization relies heavily on consumer input to function. As such, it is vital to take individual differences into consideration when evaluating the effects of customization in online environments. Sundar and Marathe (2010) found that a sense of control is of paramount importance for consumers' experiences with customized online environments. Given this finding, desire for control will be used as an independent measure in this study to gauge each consumer's desire to control his or her own media environment. Similar to desire for control, a consumer's perceived information overload level will be considered as a

potential factor in the relationship between customization and a consumer's media experience. A consumer's level of perceived information overload could potentially impact their experience with customized online environments. As shown by Liang, et al. (2006), personalized online services can reduce information overload and thus increase user satisfaction within customized online environments.

In the domain of advertising, much focus has been devoted to the investigation of how consumers react to commonplace types of advertising on the Web, ranging from banner ads to sponsorships, and pop-up ads. While dynamic and interactive advertisements were found to be more effective than static ads in producing positive consumer responses (Coyle & Thorson 2001), recent research suggests that consumers' overall response to advertising on the Web is increasingly negative as they become more savvy and skeptical about the values of such advertisements (Cho & Cheon 2004; Coutler et al. 2001). In fact, the online landscape has become congested with advertising in its more intrusive forms and consumers strive to avoid advertising as much as possible because such advertising is likely to interfere with the tasks or interests they are pursuing online (Cho & Cheon 2004; Li et al. 2002). Moreover, it has been shown that while Web searchers consider sponsored search advertising as less relevant than organic search results, they are essentially equally relevant (Jansen & Resnick 2006). Taken together, the literature suggests that interactive advertising features that enhance consumers' understanding of relevance without actually interfering with their intended tasks should be successful in eliciting their favorable attitudes. Advertising via customized websites fits this description, and due to its informative and (mostly) non-intrusive nature is not likely to be perceived as annoying or irrelevant by users of such sites.

Building upon this research, this study will examine elements of customization as they relate to a consumer's level of media enjoyment. Desire for control and level of information overload will be key individual differences considered within the parameters of the proposed model. With regard to advertising, consideration will be given to the type of advertising present in each customized environment reviewed for the study.

Background for Study

Customization in Online Environments

According to Kalyanaraman and Sundar (2006), a customized portal “creates an environment where an individual’s self-views or preferences are represented and verified by the portal when it recognizes user expectations and displays the individual’s preferences and interests on its site,” (p. 114). Kalyanaraman and Sundar (2006) suggest this will create a sense of congruence between the user and the web portal and establish a psychological connection. Moreover, users will likely show more positive attitudes towards websites that deliver such individualized content.

Petty, Barden, and Wheeler (2002), identify three methods for creating customized messages. The first involves creating customized messages on an individual’s personality schema (Brock et al. 1990). The second involves creating customized messages based on an individual’s cognitive processing style, such as need for cognition (Bakker 1999). However, the most popular method involves creating messages that reflect the degree of specificity to which the customized message matches the individual receiving the message (Kreuter et al. 1999). All three methods can be used in combination to create customized messages (Kalyanaraman & Sundar 2006).

Tailored content can be a result of either customization or personalization. In order to offer tailored content, automatic personalization systems collect information on users and their browsing behavior in two ways – overt and covert (Sundar & Marathe 2010). An overt method would be directly asking users to provide information such as their name, birthdates, or zip code. These automatic personalization systems can also gather information covertly by placing cookies in browsers to track user behavior. Most of these methods are automatic and require little to no direct involvement by the user (Sundar & Marathe 2010). Customization, on the other hand, emphasizes the user’s role in specifying the content. User-initiated customizable systems allow users to make changes to the content and form of the interfaces. These systems give user control and involvement high priority. By taking control of the decisions, users essentially make themselves sources of their interaction with the systems (Sundar 2008).

When dealing with customization, Sundar and Nass (2001) determined that individual users may be considered sources of communication. They found that the concept of “self as source” recognizes that individuals act as gatekeeper by customizing their news story preferences (Sundar & Nass 2001). By selecting their areas of interest, individuals may see themselves as the generator of stories (Sundar & Nass 2001). Research also shows that this is evident in customized web portals as well. “Although the interface has the engineering capability to offer customized features, the locus of customization resides with the individual, that is, the interface is sensitive to user preferences and offers individualized content as output,” (Kalyanaraman & Sundar 2006, p. 113). Because customization allows users to select their own preferences, the “self as source” concept may result in users perceiving a greater sense of ownership over content. In turn, this may create a positive attitude towards the website, especially when compared to those with low to no customization features. This also suggests that users who act as gatekeepers and control what content they receive may avoid experiencing information overload.

Because a customized website is based on what the user selects as their specific preferences, customization can create greater user activity and increase involvement (Sundar 2004). According to Sundar, Kalyanaraman, and Brown (2003), customization can initiate both deliberate and careful processing of the website, rather than just casual browsing when consuming media messages, people have a limited amount of mental resources to process information (Lang 2000). The Limited Capacity Model (LCM) proposes three steps in information process: encoding, storage, and selection (Lang 2000). They are used to receive a stimulus, analyze it, and place it for retrieval at a later date. Therefore, if customization enables users to process information more deliberately, more content may be encoded. In turn, this information can be stored and recalled at a later time.

Perceived relevance may also increase the deliberate processing of customized websites. Customized websites offering relevant information may “promote lingering and capture user attention” (Little 2001, p. 53). Thus, the longer a user stays on a website, the more likely they are to encode and store the information they encounter. This may also lead to a more positive attitude toward the website itself. Customization can also form positive outcomes by presenting content that users believe is relevant to them (Kreuter & Wray 2003; Petty et al. 2002). For example, a user might type in “Dallas, Texas” into a page offering customized

weather updates. The user may rate the site as considerably more relevant than a website that offers weather updates for all cities. In turn, this will prevent the user from experiencing information overload.

It is believed that the interactive nature of websites can assist in creating a dialogue between the user and the website (Sundar et al. 2003). For example, a user who inputs his zip code to receive local headlines and weather update will feel the website is interactively responding to them. Moreover, because users have control over the content they choose to receive, they will perceive it as more interactive than compared to those websites with little to no customization features. Ultimately, the perceived interactivity in customized environments as well as the sense of control could lead to greater media enjoyment for consumers while navigating these online environments.

Media enjoyment

The term enjoyment has been conceptualized in media studies to “indicate a general positive disposition toward and liking of media content” (Nabi & Kremer 2004, p. 290). Several scholars have attributed an increase in information processing capabilities in interactive environments to states of media enjoyment within consumers (Sherry 2004; Sicilia & Ruiz 2007). In a recent study by Sicilia and Ruiz (2007), a state of enjoyment within a consumer was found to “enhance, rather than impede favorable information processing” when navigating a standard web environment, such as a corporate website. Additionally, Hoffman and Novak (1996) have found that an enjoyable experience will increase learning, provide a more positive subjective experience, and promote exploratory behavior. Finally, Huang (2003) notes that more intense enjoyment states within consumers indicate higher perceived performance of interactive environments, in terms of usefulness and pleasantness, while Webster, Trevino and Ryan (1993) confirm that the flow experience is directly related to expected future technology use, or behavioral intention. As this relates to customized media environments, Sicilia and Ruiz (2007) show empirical evidence that interactive environments can be used by consumers to “aid in making decisions” and “enhance online processing and enjoyment” (Sicilia & Ruiz 2007, p. 15).

It is well documented in the uses and gratifications research that consumers use media for enjoyment. As such, there are a variety of factors that will contribute to a consumer’s sense of

media enjoyment. As this relates to control, consumers who feel more in control of their media environment may receive more media enjoyment because they can customize a content package that is relevant to their needs thereby reducing the amount of time it takes to achieve their goals. Additionally, as documented by Liang et al. (2006), decreases in information overload can increase user satisfaction with customized media environments.

Feelings of enjoyment can easily be associated with those of satisfaction – for example, a consumer may be satisfied with and find enjoyment in a given media experience. Palmgreen and Rayburn's (1985) discussion of media satisfaction offers an important perspective on the construct of media enjoyment as it is operationalized herein. Although satisfaction is a key concept in other areas of social science, little attention has been paid to this concept in the area of media studies. The concept of satisfaction has been defined as pleasure / displeasure, consumption experience (i.e. navigation experience in customized online environment), and evaluation of the benefits of consumption (Palmgreen & Rayburn 1985). Media enjoyment can also be linked with attraction, liking, and preference in the media literature (Nabi & Kremer 2004). The most poignant conceptualization of media enjoyment is as an attitude that allows researchers to "broaden our understanding not only of the precursors of enjoyment but its behavioral outcomes as well" (Nabi & Kremer 2004, p. 292).

Consumers' desire for control

Desire for control is as an independent measure in this study to gauge each consumer's desire to control his or her media environment. A sense of control is vital for consumers as they experience a customized online environment (Sundar & Marathe 2010). Burger (1985) defines desire for control as "a stable personality trait reflecting the extent to which individuals generally are motivated to control the events in their lives" as well as categorizing it as a motivational trait that measures how sought-after the personal control trait is for a person (Burger 1985, p. 1520; Burger & Cooper 1979). Several studies have used this construct to demonstrate how differences in a consumer's desire for control explain daily behaviors and decisions (Burger 1985; Burger 1992).

Althaus and Tewksbury (2000) probe the use of the Internet as a surveillance medium that helps gratify two needs: the need for information and the desire for control. Their findings suggest that desire for control is a strong predictor of news exposure. They also claim that the

control construct is positively related to surveillance with the media. That is, the greater a person's desire for control, the more they will expose themselves to the media. The literature provides evidence which links control and general media use (Althaus & Tewksbury 2000; Auter & Ray 1999; Rubin 1993). Accordingly, it is expected that desire to control will positively predict the use of customized online environments as well as the interaction with advertising therein.

In marketing, an increase of perceived control is linked to pleasantness in service and consumption experiences (Chandran & Morwitz 2005; Faranda 2001). Rubin (1993) has further demonstrated a positive correlation between control and communication motivation for pleasure. Within the context of interactive media, Liu and Shrum (2002) have developed a theoretical model for interactivity and found that desire for control is a key factor in obtaining satisfaction from the interactive process. They suggest that people who have a high desire for control will be more satisfied with interactivity than people who have a low desire for control. Thus, consumers with a high desire for control who are able to exert a sense of personal agency in their choice of online media content should have an increase in the level of enjoyment they experience in the online environment.

HI: Consumers with a high desire for control will perceive greater media enjoyment when experiencing a customized media environment (high customization) versus a standard web environment (low customization).

HII: Consumers with a low desire for control will perceive greater media enjoyment when experiencing a standard web environment (low customization) than a customized media environment (high customization).

High control consumers navigating a customized media environment should feel satisfaction as they process information which they have self-selected according to their interests. If such an environment is successful in generating an enjoyable state, according to Sicilia and Ruiz (2000), information processing capabilities should increase.

Information Overload in Customized Environments

Customized messages can be gratifying in a medium like the Internet where information overload is a common problem (Eppler & Megis 2004). Customization helps alleviate

information overload by essentially packaging the Internet's vast repository of information for an audience of one. In fact, Kalyanaraman and Sundar (2006) determined that a user's positive attitude towards a web portal is a function of the degree to which the web portal tailors content to that specific user. Given the existing reciprocal linkage between information load and user satisfaction (Liang et al. 2007), it is intuitive that consumers with high levels of perceived information overload may experience greater media enjoyment when given the capacity to customize, or tailor, their media exposure.

Across all types of media, information overload can be caused by a variety of factors, including but not limited to information quantity, quality, format as well as the number of ideas present, idea diversity, time constraints, and topic area (Grise & Gallupe 2000). When compared to traditional media, online environments provide a level of interactivity and expanse of information that creates an interesting paradox. Today's consumers have more information available to them than ever before, however due to this excess as well as the variety of interactive formats it is available in, information overload is prevalent. Once overloaded with information, few if any consumers will be able to process auxiliary information, such as advertising, leading to a loss for both consumers and advertisers (Lang 2000). Customized online environments could help compensate for this loss by creating a niche environment for advertisers to communicate with less overloaded and more cognitive available, consumers.

Applying the LCM to their study on interactive advertisements, Sundar and Kim (2004) determined that recognition, cued recall, and free recall can be treated as indicators of encoding, storage, and retrieval. They found that highly interactive advertisements are more memorable than those that are moderately interactive (Sundar & Kim 2004). However, content in highly interactive advertisements is less encoded due to the information-processing load imposed by interactivity (Sundar & Kim 2004). Though their research focused on advertisements, one could assume that too much interactivity in the customization process on websites may also hinder the encoding of the content provided. The idea of "too much interactivity" runs counter to what Kalyanaraman and Sundar (2006) concluded in their research on customized web portals. They suggest that a greater degree of customization allows greater interactive exchanges. In turn, users will exhibit a positive attitude towards

customized content and may be more receptive to less interactive advertisements such as search-based keyword ads.

Based on current growth in Web 2.0 environments and online information in general, consumers will continue to deal with information overload as they navigate the various information spaces upon which they have come to rely (Verna 2007). The LCM provides explanatory power for how customized online environments can help consumers deal with information overload – such environments could potentially aide consumers information processing by providing relevant and personalized content in an uncluttered interface. A consumer's perceived information overload level will be considered as a potential factor in the relationship between customization and media enjoyment.

HIII: Consumers with a high level of information overload will perceive greater media enjoyment when experiencing a customized media environment (high customization) versus a standard web environment (low customization).

HIV: Consumers with a low level of information overload will not perceive a difference in media enjoyment when experiencing a standard web environment (low customization) or a customized media environment (high customization).

In addition to the media content consumers are exposed to through customized online environments, they are increasingly becoming exposed to advertising within these environments. Banner ads, sponsorships, and links to advertiser websites can be found in increasing numbers within customized media environments. With advertising becoming more present in customized media environments, it is imperative to gain insights to the effects such advertising has on consumers perceived media enjoyment.

Advertising in customized online environments

Among the variety of factors influencing consumer response to advertising on the Web, congruity between the ad and the website content in which the ad is placed appears to be a significant factor in advertising perception (Cho 2003; Moore et al. 2005; Shamdasani et al. 2001). In Cho's (2003) study of banner ads, advertising content that was congruent with the editorial content was more effective as it was less likely to interrupt the consumer's primary task or focus. Similarly, the higher level of congruity between the product category advertised

in a banner ad and the context of the website in which the ad was embedded resulted in more favorable consumer responses than low relevance between the ad and the website context (Moore et al. 2005; Shamdasani et al. 2001). This bodes well for advertising via customized media environments because the ability to deliver highly customized and relevant content is inherent.

In a customized online environment, consumers encounter fewer advertisements and are instead exposed to articles and news items they have self-selected or personalized. While traditional news websites are typically cluttered with a plethora of advertising messages, customized online environments offer advertisers a place to reach niche markets of consumers amongst far less advertising clutter. Consumers will ultimately carry their ability to avoid interactive advertising (“banner blindness”) into customized media environments; however, these environments present an arena where highly customized and controlled content can be brought to consumers.

Research by Li, et al. (2002) suggests that as online consumers become increasingly goal oriented, online advertising techniques that are interactive and non-congruent shall become substantially more intrusive because they will stand between consumers and their goal actualization. Their research identified three causes of ad irritation: (1) content, (2) execution, and (3) placement. Among these, ad placement online is considered to be the primary indicator as to whether an ad is considered intrusive or not. This focus on the location of an ad ties back to the previously discussed findings confirming that increased ad congruency in an online environment leads to a higher click through rate and more favorable consumer attitudes (Cho 2003). Thus, content congruent advertising perceived as useful in this context should elicit less irritation amongst consumers upon exposure. Currently, most advertising made available through content aggregation sites, like Google Reader, appears at the conclusion of news content and thus does not represent an intrusive break to the content.

As technology advances continue to open niche markets for interacting with online consumers, it is imperative to gain a more robust perspective of how consumers are interacting with advertising in this arena. More so than ever before, consumer attention is illusive and advertisers must be always mindful of effective methods for communicating their

marketing messages. Customized online environments could provide a potentially effective outlet for reaching such consumers.

HV: Taking level of information overload into account, consumers with a low desire for control who are exposed to keyword advertising (low intrusion) via a standard media environment (low customization) will have greater media enjoyment than those low control consumers who are exposed to banner advertising (high intrusion) via a standard media environment (low customization).

HVI: Taking level of information overload into account, consumers with a high desire for control who are exposed to keyword advertising (low intrusion) via a customized media environment (high customization) will have greater media enjoyment than those high control consumers who are exposed to banner advertising (high intrusion) via a customized media environment (high customization).

Research Methodology

This study employed priming as a mechanism to simulate the experience of customizing content in an online environment. Priming was used to activate the customization category before exposing subjects to an online news environment with advertising present. Specifically, priming effects were measured in relation to the level of media enjoyment experienced when navigating the online environment. In addition to the impact of priming, it is anticipated that a consumer's desire for control as well as their feelings of information overload will have an effect on their experience with customized online environments. To undertake this investigation, a 2 x 2 x 3 between subjects factorial design was used with type of customization priming (no priming / customization priming) alternated across three types of advertising exposure (no ad / banner ad / keyword ad) while taking into account each participant's desire for control (high / low based on median split) and their level of information overload, respectively (high / low median split). The dependent variable of interest was level of media enjoyment.

Stimulus

In order to simulate the experience of reading online news content through a Real Simple Syndication (RSS) based news feed aggregator (i.e., Bloglines, NetNewsWire or Google Reader), while still maintaining the greatest degree of control over the order of exposure to

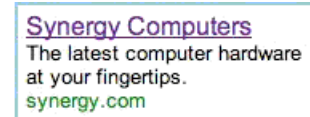
news content, a total of twelve online environments were created using web-based blog creation software. Real Simple Syndication is a common information feed format that allows for frequently updated web content. Each of the twelve online environments featured three news articles and, in some cases, displayed either a keyword ad or a banner ad immediately following the first news article. The top three most relevant news categories were identified in a pre-test conducted on a convenience sample of 145 undergraduate students. The news category choices provided in the pre-test were a standardized set of items available through both the New York Times and Washington Post websites. The majority of respondents indicated sports as the most important news category to them ($n = 29 / 25.9\%$), followed by fashion and style ($n = 13 / 11.6\%$) and technology ($n = 11 / 9.8\%$).

The articles featured in the online news environments were obtained via the New York Times, Washington Post and Austin American-Statesman newspaper websites. To isolate the priming effect, it was necessary to provide identical news content across all conditions thereby eliminating any difference in exposure. However, the content simultaneously had to appear to be “customized” for those subjects assigned to conditions with customized priming. Therefore, the news content chosen had roughly equal amounts of information about the top three news categories identified during the first pre-test (Sports, Technology, Fashion & Style). All three articles provided were between 500 to 600 words and were edited from their original versions to be of relative equal length. Care was taken to develop the online environments in such a way that a maximum level of control was achieved while still providing content that was relevant across the three “most important” news categories identified during the pre-test.

Lastly, two advertisements were developed to feature alongside the news content in the test article. Ads were placed at the end of the first featured news article and before the headline for the second news article in the online environment. Based on the pre-test, computers and PC hardware were considered the most important products to undergraduates; therefore, a banner ad and keyword ad that featured this type of product were designed. To avoid previous exposure impacts, a fictitious product name, “Synergy Computers”, was featured in the advertising. Both the keyword and banner ad included identical text content, however, the banner ad depicted a graphic of the Synergy logo while the keyword ad only had text (Figure

1). Both ads conform to industry standard measurements (i.e. Interactive Marketing Units – IMUs) established by the Interactive Advertising Bureau.

Figure 1: Interactive ads used for stimuli (left: banner ad, right: keyword ad)



Procedure

Subjects were recruited from a variety of undergraduate courses and were told that the purpose of the study was to investigate online news environments in order to obtain their opinions about their user experience. Upon arrival at the lab, participants completed an informed consent document and were then escorted to an isolation cubicle equipped with a 17-inch flat screen monitor and personal computer. A pre-test questionnaire was then administered, via an online survey, to collect individual difference data such as desire for control and demographics. Immediately following the pre-test questionnaire, subjects were randomly assigned to an experimental condition. At this point, subjects were either exposed to a customization form as part of their instructions or simply directed to the online news environment if they were not in a customization condition. For those in the customization conditions, the form inquired about a subject's college major, age, and a ranking question for their current top three news categories (derived from pre-test data) to prime participants that they were receiving customized news content. While all subjects were exposed to identical media content, the type of advertising present was manipulated by providing one of the following types of ads at the end of the first news article, 1) a banner ad, 2) a keyword ad or 3) no advertising (control condition). Following the review of the online news environment, subjects were asked to complete a post-test. Specifically, the questionnaire queried subjects about their 1) desire for control, 2) feelings of information overload, and 3) levels of media enjoyment experienced during the experiment session (Bruner et al., 2000). Finally, subjects were debriefed about the experiment.

Sample characteristics

A total of 252 undergraduate students were recruited from a variety of introductory level undergraduate courses at a large Southwestern university to participate in this study. After cleaning the data set, a total of 237 cases were complete and valid. The convenience sample

used does inhibit external validity; however, the randomization of subjects across experiment conditions increased internal validity.

The sample consisted of 174 women (73%) and 63 men (27%) with the majority of respondents belonging to the 18 – 25 age group (94%). The remaining 6% of the sample was between the ages of 26 – 55 years old. In addition, the majority of the sample was Caucasian (n = 159, 67%) followed by Hispanics (n = 32, 14%), Asian Americans (n = 21, 9%), and African Americans (n = 14, 6%). The sample was distributed across a variety of college majors, however the majority of the sample was students from the College of Communication (80% / n = 189). The remaining were Liberal Arts (13% / n = 31), Natural Sciences (3% / n = 6), Business (2% / n = 4), Fine Arts (1% / n = 3) and undeclared majors (2% / n = 4).

Independent Measures

Each subjects' desire for control was measured using a 20-item inventory developed by Burger and Cooper (1979) with each item being measured on a 7-point scale (M=4.94, SD=0.51, $\alpha=0.80$). A summated scale was constructed to represent the multiple items as well as to reduce measurement error in the subsequent analysis. Following the composition of the desire for control scale, a dichotomous variable was created to split both groups into high and low categories. A median split was used to create high and low categories for desire for control (median=94.0). Following the creation of dichotomous variables, there were a total of 108 subjects in the low desire for control group (46%) and 129 subjects in the high desire for control group (54%), respectively.

Information overload was measured using a 6-item inventory with each item being measured on a 7-point scale (M=3.34, SD=0.91, $\alpha=0.75$) (Bruner et al. 2000). A few example statements included in the information overload scale are, 1) "I am likely to receive too much information when I am searching for something on the Internet", 2) "The amount of information available online makes me feel tense and overwhelmed", 3) "When searching for information online I frequently just give up because there is too much information to deal with", and 4) "I am confident in my ability to deal with large amounts of information on the Internet, such as search results or a full email box". A median split was used to create high and low categories (median=20). A total of 118 subjects were classified as having a low level

of information overload (50%), while 119 subjects exhibited a high level of information overload (50%).

Dependent Measures

Following their exposure to the experiment stimuli, subject's self-reported their level of media enjoyment on an established eight-item scale (Bruner et al. 2000). Specifically, subjects were asked to respond to the phrase "The online environment I just reviewed ..." as it related to a series of adjective pairs, on a seven- point scale. The adjective pairs included: 1) displeased me very much / pleased me very much, 2) disgusted me very much / made me very content, 3) did a very poor job for me / did a very good job for me, 4) was a very poor choice / was a very good choice, 5) made me very unhappy / made me very happy, 6) had a very bad value / had a very good value, 7) very frustrating / very enjoyable, and 8) very unfavorable / very favorable. Based on data gathered from the post-test questionnaire, a summated scale was created for media enjoyment (M=4.70, SD=0.87, $\alpha=0.92$).

Table 1: Mean, Standard Deviation, and Cronbach's Alpha Coefficients For Scales

Independent Measures	Mean	SD	Reliability
Desire for Control	4.94	0.51	0.80
Information Overload	3.34	0.91	0.75
Dependent Measure			
Media Enjoyment	4.70	0.87	0.92

Manipulation Check

To determine whether or not subjects reported an actual difference in their level of perceived customization from the priming, an independent samples t-test was conducted with degree of customization as the dependent variable. To determine degree of customization, subjects were asked to respond to the following statement using a five-point Likert scale (Strongly Disagree / Strongly Agree): 'The content I saw while reviewing the online environment was customized for me'. The two groups tested were, 1) subjects who received customization priming (N=118) and 2) subjects who did not receive customization priming (N=119). The results from the independent samples t-test indicate that the customization priming was effective: subjects in the customized condition (M=3.05, SD=1.09) perceived greater content

customization than those in the non-customized condition ($M=2.59$, $SD=1.07$), $t(235) = 3.15$, $p < .01$, $\eta^2 = .04$).

Data Analysis and Results

To insure the validity of univariate statistical tests, such as those conducted herein, the dependent variables must meet several criteria, including 1) independent observations, 2) normal distribution of variables, and 3) homogeneity of variances (HOV). The first assumption was met by the random assignment of subjects into one of six experimental conditions. Thus, the low customization conditions with advertising (banner and keyword conditions) as well as the high customization condition without advertising all contained forty subjects, while the low customization condition with no advertising and the high customization conditions with advertising contained thirty-nine subjects, respectively.

Table 2: Distribution of Subjects by Experiment Condition

Condition	N	Percent
No Customization w / No Ad	39	16.5
No Customization w/ Banner Ad	40	16.9
No Customization w/ Keyword Ad	40	16.9
Customization w/ No Ad	40	16.9
Customization w/ Banner Ad	39	16.5
Customization w/ Keyword Ad	39	16.5
Total	237	100

To determine that all variables indeed have normal distributions, the dependent variable was evaluated for skewness. The media enjoyment summated scale was negatively skewed to a minimal degree (skewness = -0.29). Given that no skewness score was in excess of +1.0 or -1.0, it can be confirmed that the data are normally distributed (Leech et al. 2008). Additionally, the Komogorov-Smirnov test for normality was conducted on all experimental variables and none were determined to have abnormal distributions. To insure that this univariate analysis is robust to violations of HOV, Levene’s Test of Equality of Error Variances was conducted on the media enjoyment variable. The results of the Levene’s test indicate that the two experimental groups have no significant differences of variance for

media enjoyment ($F(1,235) = 0.27, p > .05$). Therefore, along with the first two assumptions, the HOV assumption was not violated (Grimm & Yarnold 1995).

Hypotheses I and II

To test HI and HII, an analysis of variance was conducted with the level of media enjoyment as the dependent variable. A 2 (customization vs. no customization) by 2 (desire for control: high vs. low) between subjects ANOVA on the media enjoyment scores revealed a main effect for level of customization, $F(3,233) = 3.70, p < .05, R^2 = .02$; however, a main effect was not indicated for desire for control, $F(3,233) = 0.92, p > .05, R^2 = .00$, nor was an interaction effect detected between desire for control and type of customization, $F(3,233) = 0.01, p > .05, R^2 = .00$. Those subjects who were given the choice to customize their online environments ($M=4.81, SD=0.86$) experienced greater media enjoyment than those subjects who did not receive the option to customize ($M=4.60, SD=0.85$).

Table 3: ANOVA Source Table for Hypothesis I and II (DV: Media Enjoyment)

Source	SS	df	MS	F	p
(AB Cells)	220.67	1			
Customization (A)	174.52	1	174.52	3.71	<.05
Desire for Control (B)	43.46	1	43.47	0.92	0.33
Customization x Control (AxB)	0.38	1	0.38	0.01	0.93
Error	10981.31	233	47.13		
Total	11201.98	237			

Therefore, Hypotheses I and II are partially confirmed.

Hypotheses III and IV

The next series of hypotheses concern how a subject's level of information overload (high vs. low) interacts with level of customization (high vs. low) to impact perceived media enjoyment. A 2 (customization vs. no customization) by 2 (information overload: high vs. low) between subjects ANOVA on the media enjoyment scores revealed a main effect for level of customization, $F(3,233) = 3.76, p < .05, R^2 = .018$; however, a main effect was not revealed for information overload, $F(3,233) = 0.03, p > .05, R^2 = .00$, nor was an interaction effect detected between information overload X customization, $F(3,233) = 0.49, p > .05, R^2 = .002$.

Table 4: ANOVA Source Table for Hypothesis III and IV (DV: Media Enjoyment)

Source	SS	df	MS	F	p
(AB Cells)	201.33	1			
Customization (A)	177.42	1	177.42	3.76	<.05
Information Overload (B)	1.34	1	1.35	0.03	0.87
Customization x Information Overload (AxB)	23.18	1	23.18	0.49	0.48
Error	11000.65	233	47.21		
Total	11201.98	237			

Thus, regardless of their degree of information overload, subjects perceived greater media enjoyment dependent upon their exposure to customization. Those subjects who were given the choice to customize their online environments ($M=4.81$, $SD=0.86$) experienced greater media enjoyment than those subjects who did not receive the option to customize ($M=4.60$, $SD=0.85$). Therefore, Hypothesis III and IV are partially confirmed.

Hypotheses V and VI

A consumer's level of information overload, in conjunction with their desire for control, could potentially impact their experience with customized online environments as well as the types of advertising present therein. To investigate the interactions between customization, type of advertising, and desire for control, while holding degree of information overload constant, a 2 x 2 x 2 ANCOVA analysis was undertaken including only those subjects who were exposed to advertising in the online environments ($N = 158$). As with all mass media, customized online environments will have a certain degree of advertising present. Therefore, it is intuitive to investigate those subjects who were exposed to advertising via a customized online environment.

Table 5: ANCOVA Source Table for HV and HVI (DV: Media Enjoyment)

Source	SS	df	MS	F	p
Corrected Model	645.89	8.00	80.74	1.94	0.06
Intercept	16779.22	1.00	16779.22	404.10	0.00
Information Overload	109.24	1.00	109.24	2.63	0.11

Customization	230.37	1.00	230.37	5.55	0.02
Type of Advertising	15.86	1.00	15.86	0.38	0.54
Desire for Control	14.90	1.00	14.90	0.36	0.55
Customization x Ad Type	69.15	1.00	69.15	1.67	0.20
Customization x Control	10.98	1.00	10.98	0.27	0.61
Ad Type x Control	17.65	1.00	17.65	0.43	0.52
Cust. x Ad Type x Control	150.99	1.00	150.99	3.64	0.05
Error	6186.81	149.00	41.52		
Total	235517.00	158.00			
Corrected Total	6832.69	157.00			

R Squared = .095 (Adjusted R Squared = .046)

Several interesting interactions emerged from the ANCOVA analysis, including a significant main effect for customization on media enjoyment, $F(3,154)=5.55, p < .05, R^2 = .09$) as well as a three-way interaction between customization, type of advertising present, and desire for control, $F(3,233)=3.64, p < .05, R^2 = .09$, with regard to their impact on perceived media enjoyment. In terms of media enjoyment, the most dramatic difference in mean scores was between those exposed to banner advertising via a non-customized online environment and those exposed to banner advertising via a customized online environment. Those subjects in the customized conditions who were also exposed to banner advertising had the greatest perceived media enjoyment of all experiment groups.

When examining desire for control and level of customization in terms of their impact on media enjoyment, those subjects who were exposed to conditions without customization had virtually synonymous media enjoyment levels across the two levels of control. However, those subjects who were exposed to customized online environments and have a high desire for control experienced greater media enjoyment than the same condition subjects who were characterized as low in desire for control. When distinguishing between types of advertising, the high control subjects who were exposed to banner advertising had virtually the same level of media enjoyment as the low control subjects in both the banner and keyword advertising conditions. The high control subjects who were exposed to keyword advertising had the highest level of media enjoyment.

Conclusions and Managerial Implications

Marketers and advertisers have yet to adopt customized media environments as a necessary component of their interactive communication plans; however, this study presents positive evidence indicating that consumers experience increased levels of media enjoyment when navigating customized environments. Increasing levels of media enjoyment in this arena will undoubtedly attract a larger base of consumers who engage with these types of online environments. As this base of consumers grows, advertisers will be well served to integrate this type of ad delivery into their campaigns to help increase consumer engagement.

As media continue to fragment and become more prevalent, consumers will continue to be overwhelmed with the amount of information available in both online and offline worlds. Customized online environments give consumers a unique place to engage their sense of control while also limiting the amount of information in their processing realm. While this study did not conclude that desire for control or information overload directly impact levels of media enjoyment in customized online environments they are still highly relevant factors to consider when researching customization impacts. Consumers will undoubtedly continue to demand a higher degree of control within their media environments; thus, the control construct warrants further investigation as it relates to customized online environments. For instance, is it possible that most consumers inherently have a high desire for control and it is more important to parse apart the factors that contribute to that sense of control?

With regard to advertising, this study focused on the types of advertising currently available via customized online environments (i.e. RSS feeds). Since rich media is not currently supported via RSS feeds, the types of ads currently available are traditional banner ads and keyword ads. Given the extensive literature indicating consumers' negative response to interactive advertising, it is no surprise that those consumers exposed to less intrusive keyword advertising experienced greater levels of media enjoyment than those consumers exposed to more intrusive banner advertising.

Limitations

This experiment has a series of limitations that should be considered in light of the findings regarding customized online environments. First and foremost, the sample used to conduct

this research was a convenience sample of undergraduate college students. Thus, the external validity of the findings is affected. Second, the dichotomization of the desire for control and information overload variables could result in a loss of variance for these elements in the model. However, since this study was an exploratory endeavor to better understand how consumers interact in customized online environments, the data can aptly be used to explore the relationship between theoretical constructs. Third, the customization element for the study was primed for participants rather than manipulated resulting in a weaker experimental manipulation. As such, influence of the independent variables on the dependent variables could be diminished introducing the possibility for floor effects. Fourth, the advertisements used for comparison in the experiment were of two different sizes. While the sizes of the banner ad and keyword ad were developed according to the specifications provided by the Interactive Advertising Bureau, they were indeed different sizes and this could possibly confound the results. Finally, due to technical restrictions and inability to control for order effects with regard to the display of news content, a typical news aggregation application could not be used for the study. Instead, a series of blogs were created to mimic the aesthetics of a news aggregator, such as Google Reader or NetNewsWire. Although the functionality of those applications was not present in the stimuli, the layout of the content and advertising was similar to a typical RSS feed. Despite the limitations, this study presents an initial look at how the presence of advertising in customized online environments impacts the consumer experience in both positive and negative ways.

Future Research

Future research in this arena should seek to determine additional individual differences that may impact media effects in the area of customized online environments, including technology self-efficacy, locus of control and technology fatigue. In addition, future studies should integrate a customization element that allows for participants to customize their media environment rather than priming the customization category before they are exposed to the media environment. With this change, it is possible that a richer picture of how consumers interact with customized online environments will emerge with relation to cognitive, affective and behavioral components. Lastly, future studies should further explore the model proposed by Sundar and Marathe (2010) regarding personal agency and system driven customizations and how advertising fits into this model.

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