PERSUASIVE DESIGN ELEMENTS FOR E-TAIL ART GALLERIES: A CONTENT ANALYSIS

LEGENE QUESENBERRY, Clarion University of Pennsylvania
BARBARA GARLAND, Clarion University of Pennsylvania
BRUCE SYKES, University of Idaho

This content analysis explored the attitudes of art patrons toward gallery web sites as a test of Winn and Beck's conceptual framework for website persuasiveness (2002). Their framework was derived from Aristotle's three rhetorical elements (logos, ethos, and pathos) as the primary concepts combined with the eleven salient factors of web site design earlier identified by Jarvenpaa and Todd (1996) as follows: logos (price, variety, product information, effort); pathos (playfulness, tangibility, empathy); and, ethos (product quality, compatibility, assurance, reliability). The authors developed measures to test this conceptual framework on one hundred forty e-tail fine art galleries. Content analysis was selected as the most appropriate method of analysis, since the websites are document-like. Three independent raters evaluated the presence or absence of twenty-five indicators of different web attributes that measured logos, ethos, and pathos. The raters also gave overall responses to the sites' persuasiveness from five different perspectives on conviction. The twenty-five attribute scores were summed to three index values on logos, ethos, and pathos and regressed against the conviction effects. The study confirmed the usefulness of Winn and Beck's theory of rhetorical persuasiveness and of Jarvenpaa and Todd's (1996) salient factors for each of the three rhetorical elements in all but one regression model out of the five conviction effects. Managerial and theoretical implications for fine arts marketing and e-tailing are discussed.

INTRODUCTION

The convergence of virtual and actual retail marketing has created a new class of consumer: the multi-channel or cross-channel shopper. Sixty-five percent of US consumers have researched a product online and purchased that product offline. Cross-channel shoppers are younger, wealthier and more experienced online than those consumers who do not use a variety of channels (Johnson 2004). The net's increasing influence is causing marketers to develop online purchasing opportunities. Digital marketing in the United States is expected to climb to $16 billion or four percent of the marketing budget by 2008 (Li and Charron 2004).

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As retail galleries begin to move online to exploit this trend, site design must account for the unique attributes of the product being promoted as well as recognize the desires of the art consumer. "There is a strong group of young collectors coming on the market right now and it's…one of the most educated…I have ever seen" (Falkenstein 2004, p. 108). The influx of young collectors reflects the visibility of art in popular culture, but more importantly for this research study, it reflects the availability of information on the Internet. A potential buyer can see a work of art at an art fair or in a gallery, access several articles about the artist and the genre on the Internet and become almost as educated as an experienced collector. The art market, estimated as a $17 billion industry (Clarke III, Irvine and Flaherty 2002), is a highly attractive market to e-tail galleries because of the emergence of this new consumer. While many marketing and communication academicians have studied e-

tail web sites, the design of an art gallery site has not yet been addressed. It poses a special problem because the product is fine art, and the experience of the site, like the experience of the art work, may require more emphasis on beauty and style than is normally given.

THEORETICAL BACKGROUND

Within the literature on web site design, one research stream stands out as potentially useful in this context—a theory of the persuasiveness of web sites derived from Aristotle's three rhetorical elements (logos or the appeal to logic, ethos or the appeal to credibility, and pathos or the appeal to emotion) proposed by Winn and Beck (2002), which harmonized salient factors of web site design earlier identified by Jarvenpaa and Todd (1996). Will this theory work with fine art sites? How does it fit with other contributing research?

Design Attributes of Web Sites

Numerous scholars have explored the effectiveness of design attributes of web sites. Donthu (2001) studied ease of use, aesthetic design, processing speed and security. Otto, Najdawi and Caron (2000) studied download time and overall user satisfaction (format, content, graphics, responsiveness, and ease of use). Coyle and Thorson (2001) studied vividness and interactivity. Dreze and Zufryden (1997) studied background (colors, size of image, use of sound files, and celebrity endorsers). Mechitov, Moshkovich, Underwood and Taylor (2001) studied attractiveness of design, speed of downloading, clarity, ease of access to information, completeness of information, entertainment value, and site design. One particularly intriguing approach is to evaluate the persuasiveness of e-commerce web sites through the adaptation of Aristotelian rhetoric using factors that were salient to consumer attitudes and intentions when shopping via the Internet (Winn and Beck 2002; Jarvenpaa and Todd 1996). Winn and Beck believe that the link between rhetoric's persuasive properties and visual design established in studies of technology and mass media are applicable to commercial contexts. They claim, "...e-commerce sites and the design elements from which they are built serve a classic rhetorical function: they are a means of persuading potential customers to explore the content on commercial sites, to interact with the site, and to ultimately reach the act of purchasing" (Winn and Beck 2002, p. 17). We tested this construct applied to e-galleries: an informative site (logos) establishes credibility (ethos) and creates the desire to return to the site or recommend the site to others (pathos).

The Model to be Replicated

In their research, Jarvenpaa and Todd suggested four overarching categories of factors which influenced consumer decisions in traditional retail channels: product perceptions, shopping experience, customer service and consumer risk. Based on a review of the relevant literature, factors salient to consumer perceptions were grouped into each category (Jarvenpaa and Todd 1996). Consumer perception of a product was determined to be a function of price, product quality and product variety. Attributes affecting the quality of the shopping experience in electronic commerce included effort, compatibility, and playfulness. The dimensions of customer service that influence satisfaction included responsiveness, assurance, reliability, tangibility, and empathy (Jarvenpaa and Todd 1996).

Adapting the Model to E-tail Fine Art Sites: Additional Influences

Another factor which affects consumer acceptance of innovations in retail marketing is risk (Bettman 1979; Cox and Rich 1964). Types of risks associated with marketing innovations are economic, social, performance, personal (Simpson and Lakner, 1993) and privacy (Jarvenpaa and Todd 1996-7). The real financial loss of purchasing a product that cannot be returned or which does not arrive represents economic risk. This factor

diminishes as certainty increases. E-tailers are realizing that selection, availability and liberal return policies are attracting customers. For example, Neiman Marcus reported a 50 percent increase in on line sales for 2005, climbing to $242m. (Frieswick 2005). Credit policies of card issuing institutions have produced a secure atmosphere in which to purchase. If a good is not received or was returned, the card holder has a period of time to dispute the charge. Further protection is gained when an institution recognizes that the cardholder's account is used to purchase something outside the client's profile and declines to allow the charge. Encryption software has allowed most retail sites to offer security features to protect users.

Another characteristic of economic risk relates to the consumer's perception of the product's value. Perception of value will greatly depend on the site's credibility. Was the product as it was represented? Social risk is defined as the level of social disapproval a purchase may engender. It is also a function of personal image. What is the image created by the behavior? Performance risk relates to the product itself. Does it meet the consumer's expectations? Personal risk most associated with the Internet is loss of credit card information. Encryption measures and indemnification from card issuing institutions are reducing this risk. The risk to privacy concerns the collection of information about the individual consumer. Sellers report a tremendous drop in traffic when they ask consumers to register with the site as opposed to allowing anonymous surfing (Caruso 1993). As assurances are given to potential customers regarding their purchasing information, this risk becomes less important. Accordingly, the probability of reaching the act of purchasing is affected by credibility and security.

Consumer research suggests the credibility of information relies on a source's reputation (Mackenzie and Lutz 1989). Reputation can be expressed in terms of ethos (Winn and Beck 2002) as well as design attributes (Jarvenpaa and Todd 1996). This concept is especially appropriate for art galleries, whose reputations are their currencies. Therefore, in our study, product quality/recognizability, compatibility, assurance, and reliability were assessed to capture attitudes toward a gallery's reputation. Issues of price, product variety, product information and effort appeal to a consumer's logic and are represented as logos. The art market is especially susceptible to perception driven pricing; therefore, how the art is presented on the site, as well as how the gallery presents itself, are critical to success. Variety is exhibited by the visitor's ability to find the type of art sought and encounter new work. Descriptive information containing dimensions and medium about the work and artists' statements about the process and result of their work as well as artist biographies support the consumer's decision making ability. The type of information and how easily it is accessed determines effectiveness in this category.

Playfulness, tangibility, and empathy are attributes of the third means of persuasion, pathos. The more a site can be personalized and the more interactive it is, the more this means of persuasion will be accomplished. The emotional satisfaction of entertainment for on line galleries can be met through e-newsletters, requests for gallery guides, press releases and calendars of shows and events. Building trust is accomplished through service to the patron. Galleries with return/upgrade policies and hanging services are likely to establish credibility faster and with a more discerning clientele.

METHODS

This study tested Winn and Beck's (2002) application of Aristotelian rhetoric to the persuasive power of web sites in another context—e-tail art galleries. The same salient factors for web design that were originally proposed by Jarvenpaa and Todd (1996) and classified and tested by Winn and Beck (2002) into logos, ethos, and pathos on a single site in the department store category, Value America, were employed in the present study. We also

used Winn and Beck's groupings of salient factors into logos (price, variety, responsiveness/product information, and effort); pathos (playfulness, tangibility, and empathy); and, ethos (product quality/ recognizability, compatibility, assurance and reliability).

Rationale for Measures

The application of Aristotle's rhetorical theory to e-galleries provides scholars with a measurement of the persuasiveness of design elements that embody logos, pathos and ethos. Practitioners can now create web site experiences that utilize these rhetorical appeals and exploit their persuasive power (Winn and Beck 2002). Understanding the relationship between the presentation of a site's salient factors and their degree of persuasiveness informs web designers of how to improve the client's experiences. During a pilot test of ten of the studied web sites, we identified twenty-seven design attributes which were related to salient factors previously developed by Jarvenpaa and Todd. The following three tables (Tables 1 through 3) illustrate the structure of this research. They are adapted from Winn and Beck (2002) and the first two columns in each table replicate their study. For each of Aristotle's means of persuasion–logos, pathos and ethos–they reported the "salient factors", as seen by Jarvenpaa and Todd. In the next column, Winn and Beck proposed new web site design attributes that corresponded with these salient factors. We added another column in order to measure how these design attributes were handled by on-line galleries. Aristotle's three means of persuasion are related to salient factors which, in turn, are connected to specific design attributes and our measures of these attributes. Information such as price, variety, product information and effort expended to navigate the site affects the logical appeal of the site. The purchase decision depends on the quality of information the client believes is necessary and the illustration of that information. Pursuant to our evaluation of logos, we created eight measures of its logical appeal. As an instrument to evaluate the quality of logos for an e-gallery, we suggest the following rationale for each of Jarvenpaa and Todd's factors.

Logos

*Price***:** Clients that comprise the target market for fine art galleries are not as price conscious as are customers of other retail sites. The art is original so price comparison is not available.

Variety: We used questions of whether a site featured displays of artists' solo shows and carried inventory of different artists to evaluate variety and product structure and display.

Responsiveness/Product Information: A site that specifies the dimensions of the work and the media fulfills this category.

Effort: The ease of navigability was measured by the presence of a menu bar on each page of the site, a site map and a clickable map of the gallery.

Pathos

Pathos as a means of persuasion works through the manipulation of the gallery surfer's emotional responses to the site. The more positive the total retail experience of the site, the stronger the surfer's attraction and attachment, or the stickier the site. The salient factor of pathos in persuasion may be reflected in playfulness, tangibility, and empathy in the following ways:

Playfulness: Whether the viewer has the ability to control what is seen is related to this factor. If the viewer can rotate and/or enlarge the pictures, view an exhibit and individual work, and can see multiple images of an individual piece of art, the site thereby entertains and engages that viewer. If the viewer may experience an in-depth solo show of a feature artist or even sample the works of many different artists, that entertainment is prolonged even more.

TABLE 1
Logos Measures Used for Design Attributes of Salient Factors

Price	Price Presentation	Price listed?
Variety	Product Structure and Display	Artists' Solo Shows?
Responsiveness/Product Information	Product Information and Display	Dimensions Given? Media specified?
Effort	Intuitiveness of Navigation	Map? Clickable map of the gallery?

Tangibility: The site's sensory appeal was measured by the use of animation, audio and the presence of many images and artists' statements regarding the philosophy and exploration of vision.

Empathy: The quality of empathy was measured by whether the site could be personalized—another way of holding a viewer to the site and making the site more relevant.

Ethos

Finally, ethos provides a strong foundation for the viewer's trust in the site for him/herself and endorsement of the site for others. Through perceived product quality, compatibility of the site with the viewer's own interests, assurance and reliability, the viewer's commitment to the site and conviction that the site is for him/her is strengthened.

Product quality/recognition: The ability for a site to enhance corporate image and branding was viewed as a function the gallery's reputation and those of the artists represented.
Compatibility: Community building can be developed through the site's promotion of local and international shows, artists' lectures/ presentations, on-line events and general information on the locale.

Assurance: The site's ability to grant assurances was measured by the presence of a return policy.

Reliability: Reliability may be enhanced by the creation of channels to customer service. We looked at the presence of e-mail, telephone numbers and directions to the gallery as means to improve reliability.

Content Analysis

This study used content analysis to explore the web site design attributes of 140 e-tail art galleries from the Annual Internet Art Directory for 2004. Content analysis, a technique common to marketing and communications research (Berelson 1952; Kassarjian 1977; Krippendorf 1980; Holbrook, 1977; Hughes and Garrett 1990; Weber 1990; and Kolbe and Burnett 1991) was selected as the most appropriate method of analysis, since whether or not specific design elements were being used on this type of web site was an important question; the web sites themselves are considered artifacts and their written and graphic content are symbolic documents. Per Kolbe and Burnett (1991, p. 243), "Content analysis is an observational research method that is used to systematically evaluate the symbolic content of all forms of recorded communications." In particular, it is especially appropriate in the study of "…the nature and effect of specific communications" (Kolbe and Bennett 1991, p. 244).

The decisions about methods in this study concern: (1) the specification of a sampling frame from which to select the fine arts web sites; (2) the specification of the units of analysis; (3) the specification of the design attributes and of the measures of conviction that will test the theory of persuasiveness; (4) the procedures to be employed to achieve reliability, systematization, and objectivity; and (5) the tests to be employed to assess the model of persuasiveness that maps the design attributes to the three factors of logos, ethos, and pathos.

TABLE 2
Pathos Measures Used for Design Attributes of Salient Factors

Playfulness	Entertainment Potential of Site	Pictures rotated? Pictures enlarged? Display of show and individual work? Multiple images of single work?
Tangibility	Sensory appeal through visual, audio, or other means	Animation? Audio? Multiple images? Artist statements?
Empathy	Personalization features	Personalize the site?

TABLE 3
Ethos Measures Used for Design Attributes of Salient Factors

Product quality recognition	Corporate image and branding	Gallery's reputation? Artists' reputations?
Compatibility	Community building	Schedule of shows? Artists' talks? International shows? On-line events?
Assurance	Privacy and security components	Return policy?
Reliability	Channels to customer service	E-mail? Phone? Directions?

Sampling Frame

The Annual Internet Art Directory (2004) was used as our sampling frame because the listed galleries had an established web presence and this publication supports galleries that carry fine art. We did not include sites of collectibles, reproductions or posters. The directory may have some sampling frame error because of the additions and attritions of web sites. In addition, some sites had changed locations and URLs; some sites were art, but not fine art, in content; and some sites were not selling or e-tail sites. Out of the original 164 art sites listed in the directory, there were one hundred forty usable, verified fine art e-tail sites that were included in this study. The verification process required all coders to locate the site at the appropriate URL for later analysis.

Units of Analysis

The web sites at the listed URLS are defined as the units of analysis. Per Berelson's seminal classification of units of analysis, the web site would be considered an "item"—"the whole 'natural' unit employed by the producers of symbol material" (1952, p.141). Three items specifically referred to attributes of the opening page; all other attributes had to be searched for throughout the site, using whatever directional links the site provided. Since all independent coders' ratings of these attributes were later assessed for reliability and discrepancies harmonized, all coders would have to overlook an attribute for it to be missed.

Design Attributes and Conviction Measures

Raters examined the presence or absence or other categorization of eleven different web attributes with twenty-five indicators that were believed to be related to the individual components of web site persuasiveness in a two stage process. We used three independent, trained raters to bolster objectivity as recommended by Kolbe and Burnett (1991). At the most global level, three factors—logos, ethos, and pathos—are hypothesized just as Winn and Beck (2002) originally proposed. At the intermediate level, eleven salient factors—price, variety, responsiveness/product information, effort, playfulness, tangibility, empathy, product quality/recognizability, compatibility, assurance, and reliability—are hypothesized just as Jarvenpaa and Todd (1996) originally proposed. At the most detailed level,

twenty-five indicators (Price stated? For price factor, etc.) of the corresponding eleven design attributes of Jarvenpaa and Todd—price presentation for the price factor, product structure and display for the variety factor, etc. (Please see Table 2 under Results)—are hypothesized as appropriate fine art web site measures of Jarvenpaa and Todd's salient factors. As explained earlier in the review of the literature, all twenty-five indicators of the eleven design attributes were ultimately expected to map to the three Aristotelian factors of logos, ethos, and pathos.

These raters also gave an overall response to the persuasiveness of the site (their conviction that the site was a quality one) consisting of five criterion variables: (1) Willingness to return to the site; (2) Willingness to recommend the site to artists; (3) Willingness to recommend the site to collectors; (4) Willingness to visit the brick-and-mortar art gallery; and (5) Willingness to use the site to check the availability of specific art works. Two of these raters were artists/collectors and the third rater, although interested in the art industry, was not a professional in the art world (a marketing professor). The five criterion variables are all measures of conviction (the strength and favorability of attitude to the site in reaction to the site's persuasiveness) specific to fine art galleries and based on the experiences of the artists/collectors. Wells, Burnett and Moriarty (2003, p. 172), describe conviction as "a particularly strong belief" that is "the result of persuasion, particularly persuasion through central processing." Based on the artists/ collectors' experiences, the search for and evaluation of information about fine art is high-involvement, because that information is both important and personally relevant to the searcher/evaluator. Therefore, these five measures address different ways in which a fine art surfer could express that conviction in relevant attitudes or behaviors. Purchase could also have been included if this type of product were not so expensive; therefore, we did not continue with later purchase decision process steps.

Procedures to Achieve Reliability, Systemization, and Objectivity

Building upon the work of Kassarjian (1977) to improve the quality of content analysis, Kolbe and Burnett (1991) operationalized the requirements for objectivity, systematization, and reliability; the authors of this study adopted many of the recommended procedures. In the domain of objectivity, the criteria or rules included: (1) describing rules and procedures; (2) training the judges or coders; (3) pretesting the measures; (4) requiring independent judges/ coders; and (5) requiring more than one judge/ coder.

Rule #1 on Objectivity: In this study, the authors established and then followed a common set of procedures that are being described in this narrative. Other research teams (as long as they include at least one artist/collector) should be able to replicate the study.

Rules #2 and #3 on Objectivity: A small pilot was conducted by using the first ten art sites to accustom all coders to share the same interpretations of the measures. Since the three factors of logos, pathos, and ethos had already been operationalized and tested empirically by Jarvenpaa and Todd (1996) and Winn and Beck (2002), only the detailed level attributes and the measures of conviction had to be learned. To help this process along, all coders were encouraged to write comments relating to their coding on their coding sheets. These comments plus any divergences in scores helped to uncover and then rectify miscommunications and confusions.

Rules #4 and #5 on Objectivity: In this study, given the lack of funding, it was not possible to hire coders/judges who are independent of the researchers. All ratings of criterion variables were independent. However, after the initial pilot on the first ten sites, where analysis and correction of categorical evaluations took place, all coders made independent decisions on their ratings for the remainder of the sites until the

end when the categorical ratings were harmonized. Having three judges with somewhat different backgrounds and perspectives may partly compensate for the inability to use autonomous coders.

Following the recommendations of Krippendorf (1980), and Weber (1990), the reliability of the coding schemes for both the categorical and interval (Likert-scales) variables was measured by considering the reproducibility of the results. Two standard statistics of reproducibility were used: percentage of agreement for the categorical measures and coefficient alpha for the interval measures. Per Hughes and Garrett (1990), these two statistics are the most common for measuring reliability in content analysis. In addition, to achieve greater stability, any disagreements among the coders of categorical measures (all three had to say the same thing about the presence or absence of an attribute) were then reconciled with the documents. All three coders' interval ratings of criterion variables were averaged to improve stability.

Systematization: In the domain of systematization, Kolbe and Burnett (2001, p. 247) put their focus on (1) hypothesis testing; (2) theory testing; and (3) data collection designs. This study satisfies all three. Although part of the study's purpose is descriptive (what design attributes are being used), part is also a test of the theoretical framework for assessing fine art sites using both Artistotle's three rhetorical factors and Javenpaa and Todd's salient factors in persuasion; this test is conducted using the F test of the regression models. Furthermore, the data collection design used in this study falls into the third category (Kolbe and Burnett 2001, p. 247)—a design that "makes inferences about the effects of the communication." In this instance, attributes contributing to persuasiveness are related to the level of conviction of the audience/coders.

Reliability: In the domain of reliability, Kolbe and Burnett (2001) focus on the measurement and reporting of interjudge reliability. This study includes such measures for the nominal variables (percentage of agreement) and for the interval variables (coefficient alpha).

Tests

Lastly, the tests to be conducted include the overall F test on the five regression models to determine whether or not the set of three factors (logos, ethos, and pathos) actually relates to conviction; the t-tests on the standardized beta coefficients within the five models to determine whether or not each of the three factors is significant; the coefficient alpha to determine the interjudge reliability of the conviction measures; and the percentage of agreement on the unadjusted, nominal measures to determine interjudge reliability on the nominal measures.

RESULTS

The typical design characteristics of the one hundred forty e-tail art galleries included in the study were quite interesting. As Table 4 shows, over fifty percent of the sites had an inventory of different artists; gave specific dimensions of the art work on the site; specified the media for the art works; had a menu bar on the opening page; could enlarge the images of the art works; discussed the reputation of the gallery; discussed the reputation of the artist(s); listed the site's e-mail; and listed the phone number for the physical gallery.

There is a sizable group of sites, although not a majority of sites, that is more technologically sophisticated in design attributes. About fifteen to twenty-five percent of these sites had animation; actually listed prices; had a site map; displayed entire shows as well as individual works; had artists' statements; scheduled on-line events; included map and/or directions to the brick-and-mortar galleries. A very few (under 10 percent) had audio (2.8 percent), had the ability to rotate image (2.8 percent), had multiple images of the same piece (2.1 percent), allowed the site to be personalized (0.7 percent), included artists'

TABLE 4
Web Site Design Characteristics

Web Site Attribute	Present in __% of web sites
Clickable map of gallery	41.1%
Audio	2.8
Animation	19.1
Inventory of different artists	63.1
Solo show	45.4
Prices listed	19.1
Dimensions given	75.2
Media specified	81.6
Menu bar on page	66.0
Site map	24.1
Can rotate images	2.8
Can enlarge	58.9
Displays show as well as individual work	20.6
Multiple images of same piece	2.1
Artist statement	22.0
Can the site be personalized	0.7
Reputation of the gallery	54.6
Reputation of artist	52.5
Schedule of shows	64.5
Artists talks	7.8
Participates in nat'l/int'l shows	12.8
Background on physical area	7.6
Any on-line events	27.0
Purchasing policy	13.5
E-mail listed	90.8
Phone listed	88.7
Directions to physical gallery given	36.2

talks (7.8 percent), or provided background on the physical area, either in text or images (7.6 percent).

Although the present study used a slightly different method than Winn and Beck, both studies found logos, pathos, and ethos factors were significant in the subject's responses. These differences are necessary because the present study uses content analysis of documents rather than respondents' self-report of perceptions. Our study used three evaluators so that we could assess inter-rater reliability. On the categorical variables, the percentage of

agreement among the raters was extremely high at 98.9 percent even before reconciliation of differences among raters. Then for the interval variables, this study slightly exceeded the minimum alpha of .70, which is considered acceptable for exploratory work by Jum C. Nunnally (1978), but is a little bellow the .80 or above recommended for content analysis by Kassarjian (1977).

Two of the coders were artists/collectors themselves and the third coder was a marketing professor; the coefficient alpha results clearly indicate that there was an extremely high reliability between the two artist/collector scores (up above .90) and the alpha could have been improved by dropping the third rater (see Table 6). Nevertheless, the third rater's score were retained to reflect the wider target market likely to visit and purchase from art e-tail sites; with all three raters, the alpha level is still acceptable for exploratory work. This does suggest that there are major perceptual differences across raters depending upon their knowledge of the art industry. This finding also suggests that sites are designed to be compatible with the target market.

For coding the "yes" or "no" responses to the twenty-five indicators of the eleven design attributes with 0 for "no" and 1 for "yes", we summed indices first for the eleven design factors and then for the three persuasiveness factors of logos, pathos, and ethos and regressed the resulting three indices against all five criterion variables. With four of the five criterion variables all three indices were statistically significant as well as the model itself. For the fifth variable (willingness to recommend the site to an artist) only logos was not significant. See Tables 6 and 7. The lack of significance for logos regarding the fifth variable is understandable. The behavior of referring an artist to view the site would probably depend upon whether or not the site had a process for submitting work rather than on the salient factors and design attributes necessary to fulfill the need for information prior to a purchase.

All five models (see Table 6) had at least twenty to thirty-five percent of the variance explained after adjusting for the number of variables in the model; this level of variance explained is fairly good in predicting attitudes, preferences, and intentions. There may be other dimensions in addition to logos, ethos, and pathos involved in the persuasive power of web sites that were not included. Further investigation could probe other dimensions, perhaps including rater experience, education, occupation, social class, or familiarity variables.

As briefly mentioned above, the standardized coefficients on logos, ethos, and pathos (Table 7) were statistically significant at the .05 level or better in all cases but one—logos was not significant for the criterion variable--willingness to recommend the site to artists. This finding makes sense given the attributes that reflect logos. Listing the price, stating product information and having a variety of works displayed would be vital prior to a purchase of art, but not determinative to an artist who is seeking potential representation or a forum in which to present current work. It is possible that the lower precision achieved by including the third rater, who is not an artist or collector, has obscured the power of this element for artists/collectors. The raters were quite likely to be looking for different cues.

IMPLICATIONS FOR E-TAIL ART GALLERIES

Since ethos, pathos, and logos are important to the virtual consumers for e-tail galleries, galleries should review their design attributes to incorporate these dimensions. They should also become more familiar with the new generation of art buyers now surfing the Web (the young, the well-educated, those more likely to buy on-line). It is their perceptions that count. As these consumers are more technologically savvy, the higher are their expectations for web design. Different stakeholder groups will also have different perceptions. The galleries must consider the web attributes desired by these

TABLE 5
Inter-rater Reliability Results for Five Criterion Variables

Measures	Alpha for Three Coders	Alpha for Two Artists
Return	.776	.992
Recommend to Artists	.786	.958
Recommend to Collectors	.775	.980
Visit Gallery	.764	.982
Check Availability of Art Work	.775	.994

TABLE 6
Regression Model Results for Five Criterion Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Significance of Model
1. Artwork availability	.553	.306	.291	1.58832	.000
2. Recommend to Collector	.554	.307	.292	1.56645	.000
3. Recommend to Artist	.461	.213	.195	1.69897	.000
4. Visit	.542	.294	.278	1.59183	.000
5. Return to Site	.608	.370	.356	1.44864	.000

TABLE 7
Regression Coefficients for Predictors of Five Criterion Variables

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1. Constant	.228	.506		.451	.653
Pathos	.445	.158	.213	2.818	.006
Ethos	.377	.088	.324	4.296	.000
Logos	.386	.106	.265	3.634	.000
2. Constant	.548	.499		1.098	.274
Pathos	.381	.156	.184	2.447	.016
Ethos	.444	.086	.386	5.131	.000
Logos	.301	.105	.209	2.874	.005
3. Constant	.739	.547		1.351	.179
Pathos	.559	.169	.267	3.311	.001
Ethos	.324	.094	.278	3.457	.001
Logos	.118	.115	.080	1.022	.309
4. Constant	.506	.510		.993	.323
Pathos	.384	.162	.184	2.372	.019
Ethos	.460	.089	.401	5.200	.000
Logos	.222	.107	.154	2.071	.040
5. Constant	.150	.462		.325	.745
Pathos	.451	.144	.226	3.137	.002
Ethos	.461	.080	.413	5.759	.000
Logos	.305	.097	.219	3.155	.002

different groups explicitly. By taking note of our recommendations, web designers can make their sites more appealing. Although the finding that the characteristics of animation and audio were not that important was surprising, it may reflect the nature of art as a visual medium not an auditory or dynamic one.

LIMITATIONS OF THE STUDY

Although the empirical test of tripartite factor structure has achieved statistical significance in the context of e-tail art galleries, the structure may not be appropriate in other e-tailing contexts. These art galleries clearly have a strong aesthetic penchant—one which is highly congruent with the persuasiveness of rhetoric as an art form. This may be one of the most likely contexts in which such an empirical test would succeed. A stronger test of the tripartite factor structure should probably also include more utilitarian types of sites—perhaps banking, insurance, legal services, research, or government sites. A mixture of sites varying along a continuum of aesthetic to utilitarian could shed some light on this query.

Additional raters with wider variation on product expertise, Internet experience, on-line purchasing experience, attitudes, motives, and lifestyles would be useful to determine whether or not there are buyer segments with different sensitivity to the factor structure of ethos, logos, and pathos. There may also be differences by stakeholder group—potential buyers, potential sellers, investors, employees, or general public—that could also influence the design recommendations of the portions of site targeted to each group.

With larger and more varied samples of sites and raters, other analytic techniques could be used, perhaps including structural equation modeling to perform a confirmatory factor analysis on the tripartite structure. In such an analysis, the three factors' effect on persuasiveness could be separated out from the effect of measurement error. There may be a different structure for repeat and for first-time visitors to a site. Reading a novel a second time is a radically different experience from reading it the first time, for example. This could also be modeled and the effect estimated with structural equation modeling. The present study has several limitations that make it prudent to refrain from quick generalizations until these types of exploration take place.

CONCLUSION

The present study has found that the tripartite factor structure of web site persuasiveness adapted from Aristotle does indeed work on e-tail art galleries. All three factors of ethos, pathos, and logos are significant in all but one case; logos was not significant in determining whether or not someone would recommend the site to artists. This factor structure is quite promising for the evaluation of web site design and additional exploratory work on multiple raters, multiple contexts, and multiple time periods is now in order. Insights from such continuing research will assist in the improved design characteristics of e-tail web sites, improved persuasiveness, and thereby improved sales performance.

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