

# Impact of Internet Images: Impression-Formation Effects of University Web Site Images

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**ABSTRACT.** Institutions of higher education are increasingly becoming dependent on Web-based marketing to reach out to their target audiences. The current empirical study examines the types of impressions formed by prospective students based on exposure to different university Web site images. A between-subjects experiment was conducted using four identical university Web sites that differed only in their visual representation of campus architecture (modern/traditional) and landscaping (presence or absence of contextual greenery). The results show how the types of visuals viewed influence impressions about academic prestige, athletic reputation, cultural vitality and invitingness of a university. [*Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH.*]

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## INTRODUCTION

The fight for attracting the best of undergraduate college students is extremely competitive, and will remain so despite expected increases in college-entering age groups. Where there is enrollment growth, it will not be consistent across the variety of over 3,000 institutions of higher education in the United States. In this competitive environment, well-established public institutions and prestigious private colleges that currently enjoy record levels of interest need to continuously work hard at maintaining their "brand appeal," and lesser-known private and public institutions must ambitiously promote their academic offerings and campus environments in order to be competitive for enrollments, donations and recognition.

As a result, there has been a significant increase over the last fifteen years in the use of marketing strategies and tactics by a wide range of colleges and universities (Berger & Wallingford, 1996). Most institutions have at least embraced the promotional component of marketing activity, and many have, with less consistency, engaged in a fuller application of marketing techniques (Goldgehn, 1990). Some have invested more fully in the concept of marketing higher education, and have developed sophisticated marketing plans which include all aspects of a marketing approach: new and revised academic programs and campus offering (product); use of scholarships as tuition discounts and special pricing offers (price); enhancements to both the actual campus environments and the presentation of the campus (place); and a variety of communication efforts ranging from advertising to direct mail to video (promotion).

## REVIEW OF LITERATURE

*College Choice and Decision Making.* Kotler and Fox (1995), who have written widely about non-profit marketing, including the market-

ing of higher education, notes, "The level of personal involvement and prior experience a person brings to a decision will influence how complex and time-consuming the decision process will be." Decisions about educational choice—which university to attend, for instance—are high-involvement decisions, requiring consideration of a variety of conditions. In this sense, college selection has impact on self-image, has long-term consequences, involves sacrifices, includes the risk of making a "wrong" decision, and involves the frequently weighty influence of peer pressure (Kotler & Fox, 1995). Some point out that college-bound students are not yet well-equipped psychologically to accurately navigate such complex decisions (Sanchez, 1998), and others suggest that they do the best they can within the limits of little high-involvement decision-making experience (Canterbury, 1999).

The stress of the decision can cause great anxiety in students and their families (Comm & LaBay, 1996; Zucker, 1992), and some critics suggest that college-bound students and families are susceptible to mass media-manipulated information, including the images and reported values of college attendance (McDonough, 1994). Consequently, the information-gathering process becomes even more critical in the college-selection decision, as students and families use information (and images) to evaluate attributes, establish preferences, rule out alternatives, and develop choices (Kotler & Fox, 1995). Many students will use the information they collect and process to establish the specific criteria they will apply in making final selections.

*Web-Based Marketing for Higher Education.* The Internet has added an exciting dimension to the dynamic of such campaigns because of the sense of immediacy and interaction involved. The rapid acceptance and use of the Internet and the equally rapid expansion of Web technology have opened up an extraordinary range of opportunities for colleges and universities trying to establish and enhance their communication with prospective students and those who influence the college selection decision. The wide popularity of the Internet among college-bound young people has made the prospect of using institutional Web sites as effective and even powerful communication vehicles even more attractive to colleges and universities. Web-based communication can serve as a mass communication alternative to actual visits, or at least as an important supplement to printed publications and videos. Furthermore, it provides colleges and universities the opportunity to establish and enhance communication with prospective students and those who influence the college selection decision (Negroponte, 1995; Tapscott, 1998).

Recent data show that the number of teenagers who regularly use the Internet has increased from 38% in 1998 to 61% in 1999, and 74% say they have Internet access either at home or at school; over 20% say they regularly use the Internet to search for colleges, and more than 52% say they would submit an application electronically (Sevier, 1999). Another national survey shows that 58% of college bound high school students go directly to the Web sites of prospective schools when searching for colleges and universities (CNET News, 1999).

In turn, colleges and universities are expanding their use of the Internet. Current data from the National Association of College Admissions Counseling reveals that 98% of reporting institutions provide detailed admissions information on-line, and 40% offer Web-based campus tours. Media awareness of this development has increased as well (Merrit, 1996; Miller, 1995), as has cautionary discussion regarding the difficulty of designing sites and managing databases (Fiore, 1997; Guernsey, 1997; Hartman, 1997).

*Institutional Image Management and Campus Representations.* Prior research on higher education image management reveals that creating favorable positive impressions of their institutions tops the list of communication objectives set by higher education administrators while dealing with their various publics (Kittle, 2000). Administrators need to consider a visual communication strategy that presents not just the best, but the most appropriate images when mounting campaigns to recruit students, raise funds, attract conferences or achieve other goals that involve a reaction to representations of the campus. Kittle (2000) further points out that potential high school students rank first amongst the important publics that most universities would like to address using their institutional messages. Image management is especially important in higher education, where concrete representations must be used to communicate abstract concepts and values. Many campus planners and higher education administrators focus on the long-term evolution of a campus' physical identity and the manner in which the aesthetic dimension of the campus matches the academic mission of the institution (Griffith, 1994). Others address more immediate responses to current demands and trends. For example, the digital revolution has necessitated changes in the technological sophistication of existing buildings, as well as the construction of entirely new types of buildings (Body, 1996).

However, little in the literature on university Web sites deals directly with the relationship of types of representations of campus architecture and impressions of the institution formed by prospective students.

McKnight and Paugh (1999) conducted a study that dealt with the relationship between university Web site information and prospective students' expectations from the university. Their study shows that architectural representation and landscaping are important to students' perceptions of the campus environment. They included landscaping and architecture in their study of a correlation between university visuals and information content and prospective students' desires and anticipations. Their results suggest that prospective students do expect and consider valuable certain types of visuals of architecture and landscaping, and rank the importance of those visuals in their selection criteria. The authors also note the potential to study students' responses to the latent psychological content of university visuals, including architecture, and suggest that Web sites should include pictures and information that answer questions never openly expressed.

*The Present Study.* The current study attempts to add to the existing literature on marketing of higher education institutions by trying to address the decisions related to the types of visual representations that could help enhance the impressions created amongst future college students. In the present study, we are going a step further than McKnight and Paugh (1999) to discuss the nature of impressions formed based on types of architectural representations and absence/presence of contextual greenery. We are interested in finding answers to questions such as: Which representations best serve the information exchange that takes place in recruiting, especially over the Internet? If a high school student has a set of pre-conceived perceptions about college life, which images of campus might reinforce or correct or otherwise influence those impressions? In light of these questions, we have focused our study on impressions formed by college-bound high school students in response to two visual representational elements of campus environments—architectural representation (traditional and modern) and landscaping (absence or presence of contextual greenery).

## METHOD

### Overview

All participants in a between-participants experiment were exposed to one of four versions of two university Web sites, each with identical textual content except for their visuals. Next, they filled out a paper-and-pencil questionnaire eliciting their impressions of the universi-

ties based on the Web sites they viewed. "Architectural Representation" and "Landscape Representation" were operationalized in terms of a 2 x 2 factorial design. The dependent variable "Impression Formation" was measured via responses to Likert-type scales in the questionnaire.

#### University Web Sites—Stimulus Material

University Web sites were especially constructed for use as stimulus material in the experiment. The Web sites created resembled the front page of a typical university Web site, complete with text. The main text was related to the "News & Events" section found in most college Web sites. There was a list of typical links like "Teaching," "Research," "Students," "Administration," "Alumni" and "Athletics." The Web site background (text, layout, colors and visuals) was identical across conditions. The only difference across experimental conditions was the type of images used in the Web site.

There were two types of visual representations in university Web sites that were created for this study. These were architectural representation (traditional and modern) and landscape representation (absence and presence of contextual greenery) (see Figure 1). When fully crossed in a 2 x 2 factorial design, there were four possible conditions:

- Condition 1: Traditional architecture without context (i.e., in isolation)
- Condition 2: Modern architecture without context (i.e., in isolation)
- Condition 3: Traditional architecture with context
- Condition 4: Modern architecture with context

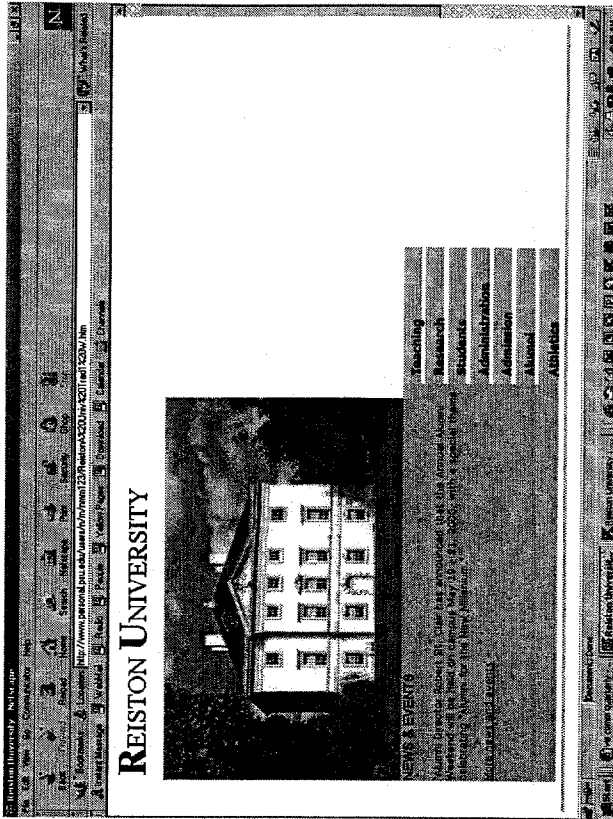
"Architectural Representation" was defined as the compliance or defiance of traditional (Greek and Roman) architectural styles as represented in a single building (see Trachtenberg & Hyman, 1986). This variable took on two values: "traditional" and "modern." The three researchers reviewed and agreed on the type of architecture for all the images used for the study (see Figures 2a and 2b).

"Landscape Representation" was defined as greenery (lawns and trees) and sky. This took on two values: absence and presence of contextual greenery, which will henceforth be referred to as "With context" and "Without context" respectively. For the "Without Context" conditions, images were manipulated digitally using Adobe Photoshop to re-

FIGURE 1. Factorial Design

LANDSCAPING REPRESENTATION		ARCHITECTURAL REPRESENTATION	
		Traditional	Modern
With contextual greenery	Condition 1 Traditional architecture without context (in isolation)	Condition 2 Modern architecture without context (in isolation)	
Without contextual greenery	Condition 3 Traditional architecture with context	Condition 4 Modern architecture with context	

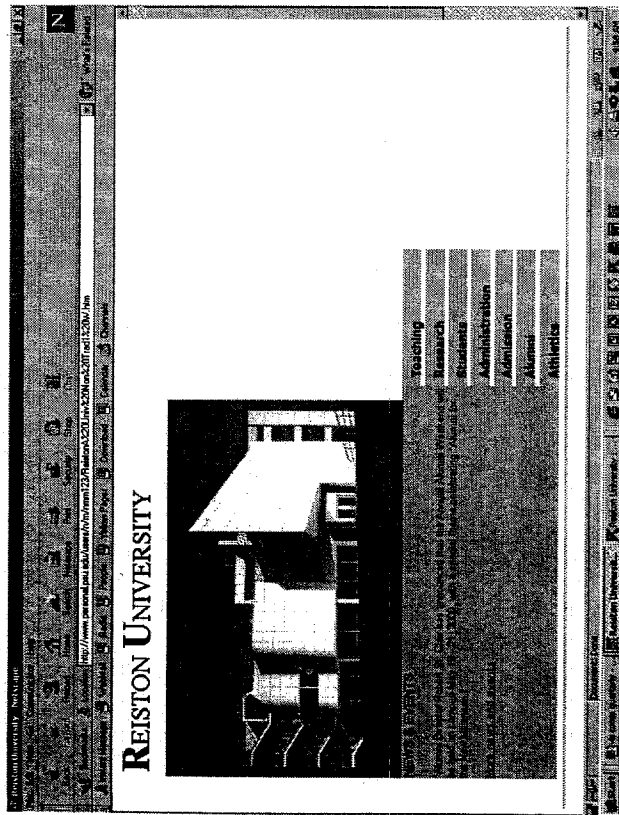
FIGURE 2a. Sample University Web Site Homepage Created for Experiment



move the surrounding landscaping context (greenery and sky) such that the building was seen in isolation (see Figures 2 and 3).

In order to remove any possible effects due to variance contributed by Web site design and content, the Web site background (text, colors and format) was kept identical across conditions while changing only

FIGURE 2b. Sample University Web Site Homepage Created for Experiment



the image. To take care of prior familiarity with the name of the university, the researchers used fictitious names—Reiston and Haisoll. The image size was manipulated such that it was kept identical across conditions. The experimental setting was kept constant for this study by using the same computer lab room for the entire study. Also, all the participants used similar computers and identical Web browsers to view the Web sites. Care was taken to hide the “address bar” in all computers to avoid any possible source bias.

One of the concerns that might arise in the minds of the readers is whether or not the authors’ perceptions of modern/traditional architecture might coincide with the participants’ perceptions. Therefore, the questionnaire included a measure for the participants to indicate how well the words “traditional” and “modern” described the Web site that they visited. They indicated their response by circling the appropriate number on a 9-point Likert scale ranging from 1 = describes very poorly to 9 = describes very well and 0 = don’t know/no opinion. This manipulation check showed that the participants’ perceptions of the “traditional” condition and “modern” condition was in line with the

FIGURE 3. Stimulus Images Used for Each Condition

LANDSCAPE REPRESENTATION		ARCHITECTURAL REPRESENTATION	
<b>Without Contextual Greenery</b>	<b>Traditional</b>	<b>Modern</b>	
<b>With Contextual Greenery</b>	<b>Traditional</b>	<b>Modern</b>	

Condition 1 Traditional Architecture without contextual greenery		Condition 2 Modern architecture without contextual greenery	
Condition 3 Traditional architecture with contextual greenery		Condition 4 Modern architecture with contextual greenery	

classifications within architecture literature that was used as the basis for selection of stimulus images. Therefore, we proceeded with further analyses. Furthermore, for each of the conditions, modern and traditional architecture, we used two images per condition as examples of the visual representation to ensure greater validity of our findings.

#### *Attitudinal and Behavioral Measures*

The dependent variables were “Attitudes Toward the University” and “Behavioral Intent.” Both of them were measured using self-reported interval level measures on a 9-point Likert-like scale using questions in a paper-and-pencil questionnaire.

For “Attitudes Toward the University,” the following measure was used:

For each word below, please circle the number that best indicates how well this word describes your general impressions of the university you see depicted in this Web-site.

This statement was followed by a series of 16 adjectives (prestigious, affordable, safe, culturally diverse, peaceful, active, warm-hearted, welcoming, arts-oriented, science-oriented, sports-oriented, well-equipped technologically, fun, academic-oriented, lots of student activities, friendly), each placed next to a 9 point scale anchored between "1 = describes very poorly" and "9 = describes very well." "0" was placed as an option for the response of "don't know/no opinion."

The other dependent variable, "Behavioral Intent" was operationalized with the following question: "Based on your impressions of this university, how likely are you to consider the following actions?" This question was followed by three items: "make a campus visit," "apply for admission" and "enroll." A 9-point ratio scale ranging from "1 = not at all likely" to "9 = very likely" and "0 = don't know/no opinion" was used.

In addition, the questionnaire ended with brief demographic questions regarding age, gender, intended major, and likelihood of joining college.

### Participants

As is typical of experimental studies, in order to ensure the highest levels of internal validity and controls to make conclusions about causal relationships, we limited our sample size so that we could rule out any alternative explanations (such as school-based differences, locale-based differences, etc.) for any observed differences across conditions. Therefore, we chose our sample of junior students from the same high school with identical viewing conditions. All forty-four participants (and their parents/guardians in case of minors) signed an informed consent form prior to their participation in the experiment.

### Procedure

The experiment was administered in a high school computer lab to 10 small groups of 3-8 students during their study periods. Prior to the students' arrival, the researcher logged on to the fictitious university Web site on all computers to be used. The preliminary screen of the Web sites was a blank page that prevented the participants from seeing the Web page ahead of time.

The students were first told that they were taking part in a study to evaluate university Web sites. The students were randomly assigned to one of four conditions. Once the experiment began, the participants

viewed the first fictitious university Web page, and were told to scroll up and down to view the full page. They were allotted 45 seconds. After the prescribed period of time, students moved to a blank page that served as a separation between the two pages so that they would not see the second Web page ahead of time. They then completed the questionnaire, which measured their attitude toward the fictitious university being depicted, behavioral intent and demographic information. After the students turned in the questionnaires, they were debriefed and thanked for their participation.

## DATA ANALYSIS

### Factor Analysis

In order to remove redundancies from the set of 16 adjectives measuring "Attitudes Towards the University," these ratings were subjected to an exploratory factor analysis. Principal components were extracted and orthogonally rotated. All measures under a given index were weighted equally. The four indices that emerged were labeled "Academic Prestige," "Cultural Vitality," "Athletic Reputation" and "Inviting." The index "Academic Prestige" was comprised of Prestigious, Peaceful and Academic-oriented; "Cultural Vitality" was comprised of Culturally-diverse, Arts-oriented, Science-oriented, Well-equipped technologically, Safe and Fun; "Athletic Reputation" was comprised of Active, Sports-oriented and Lots of student activities; and, "Inviting" was comprised of Warm, Welcoming, Friendly and Affordable. Table 1 shows factor loadings that resulted from the factor analysis.

Similarly, the 3 items (Make a campus visit, Apply for admission and Enroll) measuring "Behavioral Intent" were combined to form the index "Behavioral Intent."

These five indices ("Academic Prestige," "Cultural Vitality," "Athletic Reputation," "Inviting" and "Behavioral Intent") were checked for their internal consistency (multiple item reliability) before being used as dependent variables for further analyses.

### Analysis of Variance

A series of 2 x 2 factorial ANOVAs were performed on all dependent measures ("Academic Prestige," "Cultural Vitality," "Athletic Reputation," "Inviting" and "Behavioral Intent"), one at a time, with "Architec-

TABLE 1. Factor Loadings for Academic Prestige, Athletic Reputation, Athletic Reputation, Cultural Vitality and Invitingness

Items	Factors			
	Academic Prestige	Athletic Reputation	Cultural Vitality	Invitingness
Prestigious	-0.85	0.16	0.02	0.03
Peaceful	-0.65	-0.00	0.25	-0.47
Academic-oriented	-0.78	0.26	0.15	-0.02
Active	-0.16	0.72	0.39	-0.11
Sports-oriented	-0.05	0.86	0.07	-0.05
Student activities	-0.35	0.67	0.17	-0.16
Culturally diverse	-0.18	0.15	0.67	-0.18
Safe	-0.52	-0.08	0.53	-0.35
Fun	-0.25	0.38	0.56	-0.32
Arts-oriented	0.12	-0.05	0.83	0.08
Well-equipped technologically	-0.04	0.40	0.69	0.35
Science-oriented	-0.19	0.38	0.72	0.28
Warm	-0.43	0.22	0.00	-0.76
Welcoming	-0.49	0.44	-0.08	-0.54
Friendly	-0.53	0.34	-0.01	-0.57
Affordable	0.12	-0.01	-0.05	-0.74
Cronbach's alpha	0.79	0.79	0.85	0.89

tural Representation" and "Landscape Representation" serving as independent factors. Since the participants saw two Web sites for each condition to improve validity, the average score from the two sites was used for computing each dependent measure entered in the analyses. The factorial ANOVA allowed for the investigation of the unique effect of each independent variable (main effects) and the combined effects of the two independent variables (interaction).

## RESULTS

The measures comprising each of the five indices had highly acceptable levels of internal consistency—"Academic Prestige" (Cronbach's  $\alpha = 0.79$ ); "Cultural Vitality" (Cronbach's  $\alpha = 0.85$ ); "Athletic Reputation"

(Cronbach's  $\alpha = 0.79$ ); "Inviting" (Cronbach's  $\alpha = 0.89$ ); and "Behavioral Intent" (Cronbach's  $\alpha = 0.88$ ).

The manipulation check for the "traditional" and "modern" conditions was successful. When a t-test was performed using the measure "Traditional" for the "Architectural Representation," the results were highly significant,  $t(42) = -8.128, p < 0.0001$ , such that the subjects in the traditional condition scored significantly higher ( $M = 7.3$ ) than their counterparts in the modern representation ( $M = 3.05$ ). Similarly, for the measure "Modern," the results were again highly significant,  $t(42) = 4.342, p < 0.0001$ , such that the participants in the modern representation scored significantly higher ( $M = 7.41$ ) than those in the traditional condition ( $M = 4.64$ ).

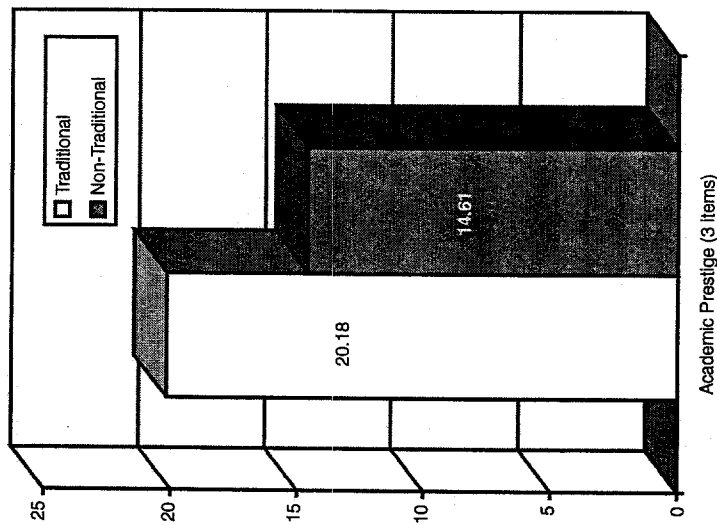
### Academic Prestige

When the "Academic Prestige" index was subjected to the  $2 \times 2$  factorial ANOVA, significant main effects were obtained for Landscape Representation— $F(1, 40) = 7.39, p < 0.01$ , and for Architectural Representation was also obtained;  $F(1, 40) = 16.87, p < 0.001$  (see Figures 4 and 5). Participants who were exposed to the "modern" ( $M = 20.18$ ) condition rated the universities significantly lower on "academic prestige" than those who were exposed to the "traditional condition" ( $M = 14.61$ ) (see Figure 4). Similarly, participants who were exposed to the "With context" condition were more likely to perceive the university displayed to be academically prestigious ( $M = 19.10$ ) than those who viewed the "Without Context" ( $M = 15.53$ ) condition (see Figure 5). The interaction effects of "Landscape Representation" and "Architectural Representation" were not statistically significant.

### Athletic Reputation

When the "Athletic Reputation" index was subjected to the  $2 \times 2$  factorial ANOVA, it yielded a near-significant main effect for "Landscape Representation,"  $F(1, 40) = 3.15, p < 0.10$ . This analysis showed that participants' perception of the athletic reputation of the university was likely to be enhanced by the presence of context ( $M = 14.33$ ) as compared to the absence of context ( $M = 11.88$ ) (see Figure 6). However, there was no significant main effect for "Architectural Representation." No significant effect was obtained for the interaction between "Landscape Representation" and "Architectural Representation."

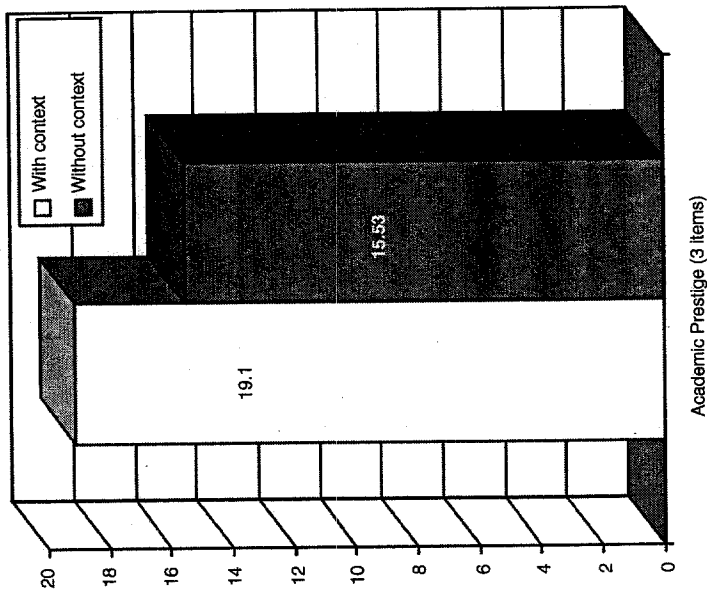
FIGURE 4. Effect of Type of Architecture on Perceived Academic Prestige of University



### Inviting

The  $2 \times 2$  factorial ANOVA using the index displayed highly significant main effects for "Architectural Representation,"  $F(1, 40) = 47.93$ ,  $p < 0.0001$ , such that the perceived "invitingness" of the university tended to increase when participants viewed images with traditional architecture ( $M = 23.48$ ) rather than those with modern architecture ( $M = 14.38$ ) (see Figure 7). The analysis yielded a significant interaction for "Landscape Representation" and "Architectural Representation,"  $F(1, 40) = 8.32$ ,  $p < 0.01$ . This suggests that the perception of "invitingness" in the modern condition was more pronounced when viewed in context rather than in isolation ( $M = 16.78$  vs.  $M = 11.50$ ), while in the traditional condition, the presence of context slightly decreased the percep-

FIGURE 5. Effect of Landscaping on Perceived Academic Prestige of University



tion of "invitingness" ( $M = 22.23$  vs.  $M = 24.73$ ). However, no significant main effect was observed for "Contextual Greenery."

Results of this study suggest that "traditional" rather than "modern" architectural representation tended to increase academic prestige and perceptions of how inviting the university is. The presence of landscaping in the form of contextual greenery, in general, serves to enhance academic prestige and athletic reputation of the university. Furthermore, it appears that the interplay of landscape representation and architectural representation can have significant effects on the participants' perception of "invitingness." The results strongly suggest that traditional architecture represented *without* contextual greenery is perceived as more inviting than *with* contextual greenery, while modern architecture *with* contextual greenery is seen as more inviting than *without*.



FIGURE 6. Effect of Landscaping on Perceived Athletic Reputation of University

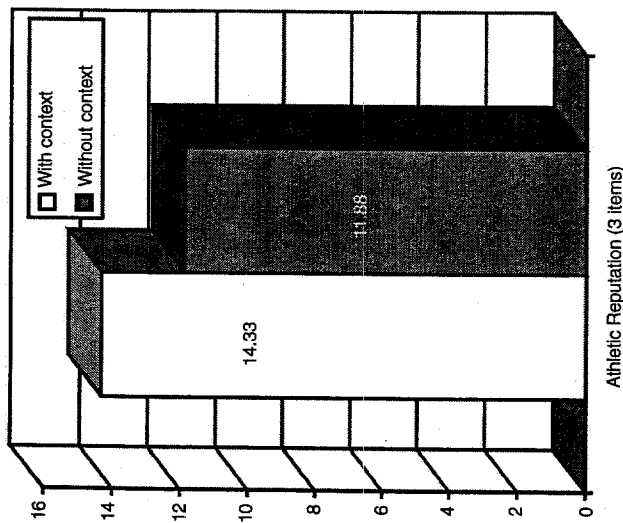
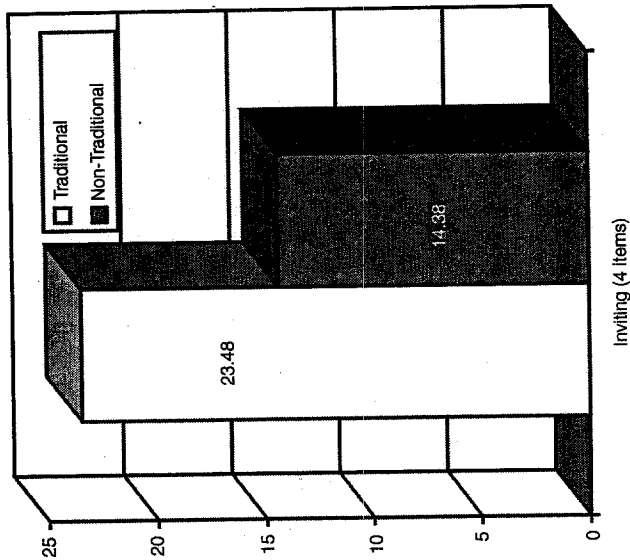


FIGURE 7. Effect of Type of Architecture on Invitingness of University



## DISCUSSION

Because the statistical findings of the experiment were clear and unambiguous, revealing either distinct statistical significance or statistical insignificance, they allowed some important conclusions to be drawn. The strength of the findings reinforce that visuals can convey a powerful message about an institution and its mission. More importantly, results suggest that college-bound students *do* form impressions about the more abstract qualities of an institution on the basis of visual images of its physical identity.

The fact that the students formed such a strong impression of academic quality in response to traditional architectural representations suggests that during the early stages of a college search, students associate quality with what they think they know, rather than with the unusual or unfamiliar. That is, university prestige may be equated with longevity, long-standing reputations, history, traditions, and hence traditional architecture. If it looks like a good university, it must be a good university.

In the same vein, the presence of landscaping imagery in Web sites—in this case, some trees or an expanse of grounds—contributes to the same impression, that academic prestige is, in a sense, landscaped, orderly. The sense of order and purpose architects allude to may be represented for these adolescents by traditional buildings that fit comfortably into a natural setting. The results suggest that presence of pictures of greenery create impressions about *Athletic Reputation*. This finding makes us speculate that the presence of “greenery” may have generated an attitudinal association with playing fields and similar athletic venues. The documented increase of students’ interest in fitness, wellness and sports can also be related to their impression of trees and grass as *athletic* as much as aesthetic.

Higher education administrators will find the results of this study especially compelling because it caters to their most crucial audiences (prospective students) and their most important communication objective (creating favorable impressions). They will find it interesting to note the specific types of impressions that can be created about their in-

situations through a careful theory-driven selection of Web site images. This study thus provides institutional communication strategists with findings that guide them to choose the appropriate symbolic representations that will best portray their institutional values and culture. It will assist them in executing the universities' visual communication strategies by guiding layout decisions—such as whether to present images with or without contextual greenery. For example, intuitively Web site designers may assume that advanced communication technology necessitate modern architectural representations. However, our findings suggest the contrary.

Campus-planners will benefit from this study's findings by understanding the importance of matching the aesthetic architectural elements of the campus with the university's academic mission. This will guide the long-term planning of campus architecture. Our findings point out the value of iconographic architectural elements in reflecting the university's identity. This understanding will be especially helpful while creating "signature" buildings. After all, signature buildings often serve as symbolic icons and logos. Perhaps through repeated exposure to these symbols through university publications, college sports merchandise and university special events, their associations with the identity of the university might be further strengthened to the extent that the symbols might act as pictographs.

While the findings of this study seem to make at least a modest contribution in the areas of the marketing of higher education, the psychological impact of Internet visuals on college-bound adolescent decision-making, and certainly the area of college and university Web site planning and design, there are a few limitations of this study that provide directions for future researchers. Firstly, the students viewed only a single page of a university Web site, which contained a single image of one building. A larger site with more visuals may have produced more refined results regarding attitude, and more conclusive results about behavioral intent.

Secondly, external validity may have been affected by the small size and homogeneity of the students in the sample. Students' lack of travel experience and/or familial concerns about financial implications may have colored their responses. Finally, it should also be noted that although for this study a broad categorization of "traditional" and "non-traditional" representations was used to classify architecture, the literature classifies such representations in a variety of ways, such as Georgian, Victorian, Neo-Classical, Avant-Garde, Contemporary and

so on. Future researchers may decide to use a more specific differentiation in other studies.

Overall, this study offers some new directions to higher education marketing researchers and practitioners interested in understanding the importance of using appropriate visual symbols while representing their corporate images and institutional cultures using the Internet medium.

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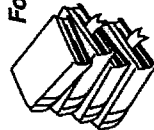
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# Choice-Based Segmentation As an Enrollment Management Tool

Mark R. Young

**ABSTRACT.** This article presents an approach to enrollment management based on target marketing strategies developed from a choice-based segmentation methodology. Students are classified into "switchable" or "non-switchable" segments based on their probability of selecting specific majors. A modified multinomial logit choice model is used to identify "switchable" students and provides insight into the attributes that influence their choice. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: [docdelivery@haworthpress.com](mailto:docdelivery@haworthpress.com) Website: <http://www.HaworthPress.com> © 2002 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS.** Target marketing, segmenting, marketing strategy, enrollment management

## INTRODUCTION

Demographic shifts, coupled with dramatic declines in student interest in business majors and careers, have led to a "recession" for many undergraduate programs, according to "The Class of 1998," a report by Kenneth C. Green (1995). The International Association for Management Education (AACSB) reported the undergraduate degrees in business awarded by U.S. colleges and universities declined by

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