

The importance of university web pages in selecting a higher education institution.

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Abstract

The purpose of this paper was to explore the role the internet and University webpages play in student decisions to consider and attend any specific university. The findings from this study support previous research on the increased use of the internet in the decision-making process and selection of universities by potential students. It emphasizes the need for universities to have attractive and clearly understood webpages with readily navigable information on such characteristics as programs, course offerings, location, and relevant accreditations. This is critically important as visiting the website and what was found there was a precursor to a decision to visit the campus. Finally, the demographics on age indicate that utilization of the internet is more important to the younger generation than older students. This trend is expected to continue and will become more of a factor as our Generation X and Y become parents.

Keywords: internet, webpages, decision-making, university, selection

Introduction

Every year thousands of students make a decision that will have a significant impact on the rest of their lives. They choose what college or university to attend. This decision will affect their career, earnings, and professional development. This decision is equally important to the institutions that depend upon students' tuition revenue to operate. In 2005, private colleges spent an average of \$2,073 to recruit each new student, making efficiency in communicating and recruiting a major goal for colleges and universities.

Where are prospective students going for information about universities? They are examining university websites. In our study, 94 percent of the student respondents indicated a positive response to the statement "Prior to considering a school I examine its website". The purpose of this paper is to examine how students are using these websites and what particular information they are gathering from the school's website. We then provide recommendations for universities to assist them in making their websites better tools for "selling" their institutions.

LITERATURE REVIEW

College Selection

The selection of an institution of higher education can be categorized as the purchase of a high involvement, credence type of service. The choice is high involvement since it involves a great deal of financial risk, psychological risk and social risk. Higher education is a credence service since it is difficult for the consumer to evaluate the service even after some trial has occurred (Zeithaml 1981). For this type of purchase we can expect a greater information search prior to purchase and the internet is a primary tool for the information search (Benjaman and Lee, 2005).

A recent study by Tucciarone (2009) found that students rely on information from college websites in evaluating the institution. The most common information sought by the students was majors, cost, ranking of school, size and location. Some colleges are utilizing specialized recruitment software which uses instant messaging type software to engage visitors who visit their website to increase recruiting opportunities and the interactivity of the website itself (Benjaman and Lee, 2005).

Gender Differences on the web

Previous research has found that gender differences exist regarding online activities and attitudes. For instance, Toe (2001), found females were more likely to engage in messaging activities online while males were more likely to use the internet for downloading files and making purchases. Heavy and medium internet users were more likely to be male (Koragaonkar and Wolin 2002). Ono and Zavodny (2003) reported no difference in internet access based on gender, however differences existed in frequency and intensity of internet use. They found males tended to be online more frequently and for longer periods of time.

In terms of internet shopping, gender has been related to attitudinal differences, with women having more favorable attitudes toward online shopping and also employing value optimizing strategies more frequently than men (Alreck and Settle 2001). Girard, Korgaonkar and Silverblatt (2003) found that men were convenience shoppers online. In other examinations

of gender differences in online buyer behavior, men were more likely to actually purchase online (Van Slyke Comunale and Gelanger, 2002 and Sin and Tse, 2002). These findings lead to the first research proposition.

R1 - The importance of websites in the selection of a higher education institution will vary by gender.

Experience

Consumer research has included prior experience as a key variable that influences the consumer's search criteria and decision process in off-line consumer behavior (Biehal 1983). The role of experience is supported by research on online behavior as well. Experience with internet auctions lead to greater success by participants in internet auctions. Burroghs and Sabherwal (2002) found that prior experience in online shopping and online prior experience in online information searches were both predictors of online purchasing. Similar findings have been reported with prior experience with internet use being a predictor of purchase intention on the internet (Monsuwe, Dellaert and Ruyter 2004; and Yoh, Damhorst, Sapp and Laczniak, 2003). This leads to the following research proposition.

R2 - Those with prior experience in using the internet will utilize the institution's web page differently than those with less experience.

Frequency of Use

Prior research examining the role of frequency of internet use has yielded mixed results. In one study, more frequent search behavior was found to be a predictor of online purchasing behavior (Burroghs and Sabherwal, 2002). However, Goldsmith (2002) found the amount of internet use (frequency) was not found to be related to purchasing online. Goldsmith (202) notes that position of use in the model for internet buyer behavior may not have been accurate, that is to say that online shopping may result in more internet use, not that more internet use results in more online shopping. We contend that internet use is related to internet experience, and therefore this connection leads to the following research proposition.

R3 - Those consumers who go online more frequently will place a greater weight on a school's website than those who go online less frequently.

Age

Although internet access and use has become the norm, there are differences in online behavior that are related to age. Young adults use the internet more frequently and for longer periods of time (Lyons 2004). Age has also been found to be significantly related to online information gathering and shopping behavior. Those who are 26-45 years old were more likely to go online for information for travel and tourism and also to make travel arrangements online than other age groups (Weber and Roehl, 1999). Chen and Hitt (2002) found that age and education are related to surfing (switching) behavior online.

Regarding university selection, Schimmel, Eschenfelder, Marco, and Racic (2009) examined the differences between traditional, adult continuing education students and graduate students. They found that age was a significant factor with adult continuing education students and graduate students utilizing similar selection criteria. Traditional undergraduate students, however, differed from both the adult continuing education and graduate students in their selection criteria. This results in the fourth research proposition.

R4 Older respondents will place less importance on an institution's website than younger consumers.

Graduate or Undergraduate Student

Graduate and undergraduate students differ. Graduate students tend to be more competitive than undergraduate students. They tend to be older, have more life experience and more technologically savvy. These differences among graduate and undergraduate students also lead to differences in online behavior. Some research indicates that graduate students and undergraduates differ in online educational environments as well (Alstete and Beutell 2004). Graduate student and undergraduates also have been found to differ on the perceptions of internet data quality (Klein 2002). This leads to research proposition 5.

R5 - Graduate students will place a different level of importance on the information on university websites than undergraduates.-

METHODOLOGY

Sample Methods (tools used)

Data was collected using an online survey tool. Incoming students were sent an email asking for their participation. Of the incoming class of 683 students, we got 257 responses for a response rate of 37.6 percent. The demographics of the respondents are located in table one. See Table One in the Appendix.

Measures

The dependent variables, use and impact of the internet, were assessed by 12 items using a six point likert scale anchored by completely disagree and completely agree. The items were: I used the internet to..... identify schools; explore program offerings; identify school locations; determine a school's accreditations; examine the times courses were offered; find out about a schools faculty; obtain a campus map; get a feel for the campus. Four other items in this section were: Prior to visiting a school, I visited the school's website; The school's website was the primary source of information for my decision; my opinion of the school was shaped to a large degree by the school's website; and Websites are the best source of information about a school.

The demographic independent variables are assessed in the following manner. Age was coded with 17-22 being group one (traditional students) 23-30 and 30 and over. Information on gender and graduate or undergraduate student was also collected.

Internet use was coded as 1-7 year being the first group and 8 or more being the second. This split roughly divided the sample evenly. To divide the sample evenly experience on the internet is coded as 10 or less times a week and more than 10 as the second grouping.

Statistical Methodology

Multivariate analysis of variance (Manova) was used to test the research questions. Manova is an extension of Anova to accommodate more than one metric dependent variable simultaneously. Manova is used to test for mean differences between groups.

FINDINGS

The respondents indicated that the University's website was important in their decision process to select which university they would attend. All of the items received mean ratings on the "important" side of the scale. The top items based on mean responses were all related to getting information about the university itself such as location, schools, programs, course times and accreditations.

The items that received the lowest mean ratings were the items that dealt with the development of the university's brand image. These items were: I used the internet to get a feel for the campus (3.96) and that the respondents' opinion of the school was largely shaped from the schools website (3.89) Is this out of 4, 5 or 6? See Table Two in the Appendix.

Gender

Research Question one was not supported. Unlike previous research, our findings suggest that gender does not play a critical role in the utilization of the website to select a university. There were no significant mean differences identified between the groups based on the Manova Results. See Table Three in the Appendix.

Experience

Research question two was supported, there are mean differences based on the Manova results presented in table four. The tests reveal that those with more years of internet experience had a consistently greater mean score than those with less internet experience. The differences were statistically different on the following variables: I used the internet to explore programs/offerings (sig. .004); I used the internet to identify locations (sig. .035); I used the internet to determine a school's accreditations (sig. .000); I used the internet to examine the times courses were offered (sig. .000); I used the internet to find out about the school's faculty (sig. .023); I used the internet to get a campus map (sig. .022); Prior to considering a school, I visited the school's website (sig. .000); The school's website was a primary source of information for my decision (sig. .001); My opinion of a school was shaped to a large degree from the school's web-page (sig. .012); Websites are the best source of information about a school (sig. .002). See Table Four in the Appendix.

Frequency of Use

Research question three was supported, there are mean differences based on the Manova results presented in table five.

I used the internet to identify schools (sig. .049); I used the internet to Identify locations (sig. .001); I used the internet to determine a school's accreditations (sig. .000); I used the internet to examine the times courses were offered (sig. .005); I used the internet to find out about the school's faculty (sig. .002); I used the internet to get a campus map (sig. .002); I used the internet to get a feel for a campus (sig. .002); Prior to considering a school, I visited the school's website (sig. .009); The school's website was a primary source of information for my decision (sig. .036). See Table Five in the Appendix.

Age

Research question four was supported, there are mean differences based on the Manova results presented in table six.

The school's website was a primary source of information for the purchase decision (sig .002); Websites are the best source of information about a school (sig. .009); I used the internet to identify schools (sig. .001); I used the internet to explore programs/offerings (sig. .037); I used the internet to determine a school's accreditations (sig. .018); I used the internet to examine the times courses were offered (sig. .000); I used the internet to find out about a school's faculty (sig. .004). See Table Six in the Appendix.

Type of Student

There was support for research question five that graduate and undergraduate students would place different levels of importance on attributes of the university's webpage. The manova test for research question five is presented in table seven. The undergraduates placed more importance on the website than the graduate students. The Manova was significant at the .000 level and the univariate tests of mean differences resulted in eight variables having significant differences between the groups.

There were also differences when the attributes were ranked based on their ratings, of the top five three were different. In all instances the undergraduate students indicated a higher level of agreement with the statements: Prior to considering a school, I visited the schools website, (sig 009); The school's website was a primary source of information for the purchase decision (sig .002); My opinion of a school was shaped to a large degree from their web-page (sig.036); Websites are the best source of information about a school (sig. .001); I used the internet to explore program offerings (sig. .008); I used the internet to determine a school's accreditations (sig. .041); I used the internet to examine the times courses were offered (sig. .000); I used the internet to find out about the school's faculty (sig. .004). See Table Seven in the Appendix.

IMPLICATIONS

The university website is an important tool in consumers' decision processes to select a university to attend. The respondents indicated they first visited the website prior to actually visiting the campus. The web is being used as a shopping tool to evaluate attributes such as

programs, course offerings, location and accreditations. In this manner the university's website is being used to develop and refine the consumers' evoked set.

Navigation on the first pages should provide clear links to the information the potential consumers want to see. Location, programs, course offerings, and the campus map should all be linked to the first page.

The differences that existed between age and type of student indicate opportunities for targeting via layout. Schools can determine, apriori, what segment they are interested in based on age and type of student and target them by providing the information the preferred customers want. When ranking the variables based on ratings, the top two ratings were consistently agreed upon, but the third, fourth and fifth most important ratings varied in their ranking.

The consumer behavior shopping/purchasing patterns of online purchases and the needs skill for online decision making have influenced higher education. With the rise of the "information age" consumers are looking to higher education websites to assist them in the decision making process. Our study showed 94 percent of the participants viewing the university's website for information.

The gender differences between males and females found in previous studies was not supported in this study. The differences did not extend to the purchase of credence products such as higher education.

The online behavior related to age support the findings that young adults use the internet more frequently and for longer periods than other groups (Lyons 2004). This supports the findings of this study that potential students used the website primarily for identifying schools, exploring program offerings prior to a visit to the school, identifying school location, and determining the school's accreditations as major focal points of their internet search of university websites. The study found that undergraduate students placed more importance on website than graduate students.

CONCLUSION

A university's website now is an important tool in the information gathering stage in the consumer decision making process. Potential students' first impressions are influenced electronically via the website. A university's web presence is extremely important because visiting the website first is found to be a precursor to visiting the campus. The need to enhance the shopping tool for better navigation on the first page and the overall visual appeal is paramount in website design. Respondents indicated that the most important aspects of the website evaluation process are: programs, course offering, location, and accreditations. These should all be accessible on the first page of the website.

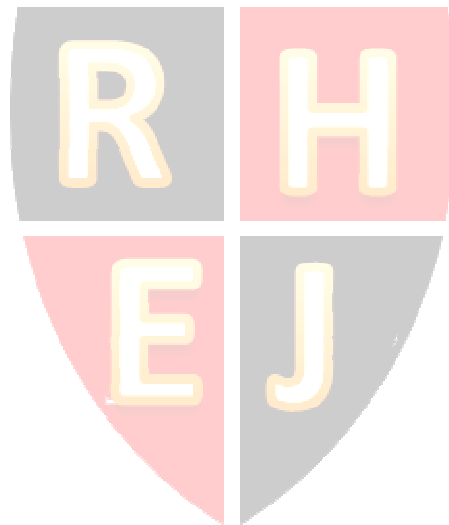
This paper highlights the increasing importance of the university webpage in the selection process of by prospective students. As the use of technology by the current and next generation of students as well as their parents continues to grow, universities will need to utilize better and more easily navigable websites. The webpage is the gateway to all other forms of communication and a primary medium through which undergraduate students choose their institution.

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APPENDIX

**Table One
Demographic Breakdown of Respondents**

Variable	Frequency	Percent
Student Status		
Traditional	99	38.5
Graduate	108	42.0
Adult Continuing Ed.	50	19.5
Gender		
Male	108	42.2
Female	148	57.8
Household Income		
Under \$20,000	31	13.1
20-40,000	72	30.4
40-60	65	27.4
60-80	40	15.6
80-100	18	7.6
100 and up	11	4.6
Ethnicity		
Caucasian	235	92.9
African American	15	5.9
Asian	2	.8
Hispanic	1	.4
Other		

Table Two
Descriptive Statistics

Questions	N	Mean	Std. Deviation
Prior to considering a school, I visited the school's website	256	5.23	1.154
I used the internet to explore program offerings	255	5.12	1.005
I used the internet to identify school locations	255	4.84	1.248
I used the internet to identify schools	257	4.84	1.269
I used the internet to examine the times courses were offered	257	4.58	1.467
I used the internet to determine a school's accreditations	255	4.51	1.334
I used the internet to obtain a campus map	255	4.39	1.635
The school's website was a primary source of information for my decision	256	4.34	1.460
I used the internet to find out about the school's faculty	257	4.21	1.439
Websites are the best source of information about a school	257	4.02	1.445
I used the internet to get a feel for the campus	256	3.86	1.626
My opinion of a school was shaped to a large degree from the school's website	256	3.83	1.448

Table Three

Manova Table for Gender

	Male	Female	Wilks' Lambda	F	df1	df2	Sig.
I used the internet to identify schools	4.94	4.82	.998	.538	1	243	.464
I used the internet to explore program offerings	5.17	5.10	.999	.337	1	243	.562
I used the internet to identify school locations	4.83	4.92	.999	.262	1	243	.609
I used the internet to determine a school's accreditations	4.54	4.54	1.000	.003	1	243	.960
I used the internet to examine the times courses were offered	4.61	4.57	1.000	.046	1	243	.830
I used the internet to find out about the school's faculty	4.09	4.30-	.995	1.251	1	243	.265
I used the internet to obtain a campus map	4.42	4.39	1.000	.020	1	243	.887
I used the internet to get a feel for the campus	3.73	3.96	.995	1.283	1	243	.258
Prior to considering a school, I visited the school's website	5.27	5.23	1.000	.095	1	243	.759
The school's website was a primary source of information for my decision	4.37	4.34	1.000	.026	1	243	.871
My opinion of a school was shaped to a large degree from the school's website	3.89	3.82	.999	.166	1	243	.684
Websites are the best source of information about a school	4.05	4.04	1.000	.005	1	243	.943

Wilks' Lambda

Wilks' Lambda	Chi-square	df	Sig.
.967	7.899	12	.793

Table Four

Manova Table for Frequency of Use

	Under 10	Over 10	Wilks' Lambda	F	df1	df2	Sig.
I used the internet to identify schools	4.72	5.03	.984	3.916	1	243	.049
I used the internet to explore program offerings	5.04	5.23	.991	2.114	1	243	.147
I used the internet to identify school locations	4.63	5.16	.953	12.003	1	243	.001
I used the internet to determine a school's accreditations	4.22	4.90	.931	17.929	1	243	.000
I used the internet to examine the times courses were offered	4.34	4.86	.969	7.890	1	243	.005
I used the internet to find out about the school's faculty	3.94	4.50	.962	9.506	1	243	.002
I used the internet to obtain a campus map	4.09	4.74	.960	10.021	1	243	.002
I used the internet to get a feel for the campus	3.57	4.19	.963	9.412	1	243	.002
Prior to considering a school, I visited the school's website	5.05	5.44	.972	6.969	1	243	.009
The school's website was a primary source of information for my decision	4.15	4.55	.982	4.466	1	243	.036
My opinion of a school was shaped to a large degree from the school's website	3.70	3.99	.990	2.515	1	243	.114
Websites are the best source of information about a school	3.92	4.16	.993	1.720	1	243	.191

Wilks' Lambda

Wilks' Lambda	Chi-square	df	Sig.
.892	27.087	12	.008

Table Five

Manova Table for Internet Experience

	Less than 7	8 or more	Wilks' Lambda	F	df 1	df2	Sig.
I used the internet to identify schools	4.71	4.99	.987	3.111	1	243	.079
I used the internet to explore program offerings	4.92	5.29	.966	8.592	1	243	.004
I used the internet to identify school locations	4.69	5.02	.982	4.472	1	243	.035
I used the internet to determine a school's accreditations	4.18	4.82	.940	15.646	1	243	.000
I used the internet to examine the times courses were offered	4.19	4.89	.945	14.213	1	243	.000
I used the internet to find out about the school's faculty	3.97	4.39	.979	5.271	1	243	.023
I used the internet to obtain a campus map	4.13	4.61	.979	5.275	1	243	.022
I used the internet to get a feel for the campus	3.72	3.97	.994	1.440	1	243	.231
Prior to considering a school, I visited the school's website	4.93	5.48	.944	14.457	1	243	.000
The school's website was a primary source of information for my decision	3.98	4.62	.953	11.977	1	243	.001
My opinion of a school was shaped to a large degree from the school's website	3.58	4.05	.974	6.462	1	243	.012
Websites are the best source of information about a school	3.71	4.29	.960	10.073	1	243	.002

Wilks' Lambda

Wilks' Lambda	Chi-square	df	Sig.
.869	33.275	12	.001

Table six

Manova Table for Age

	17-22	23-30	31and up	Wilks' Lambda	F	df1	df2	Sig.
Prior to considering a school, I visited the school's website	5.14	5.51	5.10	.977	2.868	2	242	.059
The school's website was a primary source of information for my decision	3.97	4.75	4.44	.949	6.489	2	242	.002
My opinion of a school was shaped to a large degree from the school's website	3.66	4.08	3.84	.985	1.825	2	242	.163
Websites are the best source of information about a school	3.73	4.40	4.10	.961	4.855	2	242	.009
I used the internet to identify schools	4.91	5.21	4.46	.944	7.151	2	242	.001
I used the internet to explore program offerings	5.06	5.37	4.97	.973	3.330	2	242	.037
I used the internet to identify school locations	5.00	5.05	4.53	.966	4.299	2	242	.015
I used the internet to determine a school's accreditations	4.48	4.87	4.27	.968	4.063	2	242	.018
I used the internet to examine the times courses were offered	3.86	5.09	5.10	.830	24.848	2	242	.000
I used the internet to find out about the school's faculty	3.86	4.45	4.46	.958	5.241	2	242	.006
I used the internet to obtain a campus map	4.45	4.48	4.27	.997	.352	2	242	.704
I used the internet to get a feel for the campus	3.98	3.93	3.6	.993	.895	2	242	.410

Wilks' Lambda

Wilks' Lambda	Chi-square	df	Sig.
.689	88.162	24	.000

Table Seven

Manova Table for Student Type

	Graduate mean	Undergrad mean.	Wilks' Lambda	F	df1	df2	Sig.
Prior to considering a school, I visited the school's website	5.07	5.47	.972	7.030	1	243	.009
The school's website was a primary source of information for my decision	4.10	4.67	.963	9.369	1	243	.002
My opinion of a school was shaped to a large degree from the school's website	3.68	4.07	.982	4.459	1	243	.036
Websites are the best source of information about a school	3.77	4.40	.953	11.913	1	243	.001
I used the internet to explore program offerings	4.99	5.33	.972	7.079	1	243	.008
I used the internet to identify school locations	4.86	4.91	1.000	.115	1	243	.734
I used the internet to determine a school's accreditations	4.39	4.74	.983	4.218	1	243	.041
I used the internet to examine the times courses were offered	4.17	5.17	.889	30.482	1	243	.000
I used the internet to find out about the school's faculty	3.98	4.51	.966	8.519	1	243	.004
I used the internet to obtain a campus map	4.35	4.47	.999	.291	1	243	.590
I used the internet to get a feel for the campus	3.82	3.93	.999	.302	1	243	.583
I used the internet to identify schools	4.76	5.03	.989	2.822	1	243	.094

Wilks' Lambda

Wilks' Lambda	Chi-square	df	Sig.
.843	40.585	12	.000