The Influential Factors First-time Enrollees Utilize When Choosing a College of Agriculture

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Abstract

The need to recruit and educate high quality students with degrees from colleges of agriculture has been well established. However, not as well established are the factors that prospective students consider in selecting a college/university to attend. The purpose of the study was to compare two academic years of first-time enrollees in a college of agriculture with regard to the factors they used in making their college choice. The quadrant analysis model indicated that a "visit to campus" was the most useful source of information to prospective students. The results also indicated that students responded positively to participating in on-campus recruitment events and having personal conversations with professors. Career opportunities and the reputation of the university were identified as the most influential factors in prospective students' college choice process. First-time enrollees reported that having a relative who attended the college/university had an influence on their decision as well. It was concluded that first-time enrollees were consistent across the two academic years in the sources of information and factors used in selecting a college. Factor analysis revealed that the principal components in the college choice process were institution and degree program quality, influential people, personal considerations, and sources of information.

Introduction

Colleges of agriculture must be able to effectively recruit, retain, and educate high quality students and prepare them to meet the employment demands of industry (Ball, Garton and Dyer, 2001). Every academic year, a familiar set of faces leave the university setting. How can colleges of agriculture ensure that students continue to enroll in their degree programs? Due to the rising costs of a college education and declining enrollments in colleges of

agriculture, effective recruitment is more critical today than ever before. As tuition continues to increase, students will seek alternatives. Therefore, colleges of agriculture must identify effective strategies to recruit students. Cole and Fanno (1999) stated that, "Recruitment efforts should give students accurate information about majors, especially the science to be successful in the major. Too frequently, recruitment efforts do not provide adequate information about the majors or the preparation necessary to be successful in the majors" (p. 31).

Continual re-assessment of the recruitment strategies deemed most effective in attracting students onto campus and into degree programs is essential. Effective recruitment strategies have been identified through prior research. Cole and Thompson (1999), Scofield (1995), and Taylor and Johnson (1993), found that "parents" had the greatest influence on whether or not students chose to attend a post-secondary school. Scofield (1995) and Cole and Thompson (1999) found that "printed literature" was an influential source of information in students' decision-making process. Cole and Fanno (1999) and Washburn (2002) indicated that "oncampus visits" were very instrumental in the recruitment process. Holistically, these authors found "visits to campus," "university publications," and "letters mailed from university admissions representatives" to be the three most commonly used sources of information by first-time college of agriculture

Although prior studies have indicated a plethora of strategies and factors important to the recruitment of students, enrollment in colleges of agriculture throughout the last two decades has been unstable at best. Manderscheid (1988) reported a decline of 24% in overall college of agriculture enrollment in land grant institutions and a 13% decline in non land grant institutions from 1978-

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1988. In 1999, colleges of agriculture, nationwide, experienced declines in enrollment for the first time in over a decade (Goecker, Whatley and Gilmore, 2000).

The decline in student enrollment; however, is not due to a lack of employment opportunities for graduates. Goeker et al. (2000) stated that many agriculturally related jobs are left unfilled every year. Evers, Rush and Berdrow (1998) stated that college graduates who can solve problems and think critically are needed in society more than ever.

With a number of agriculturally related jobs available in the workforce and a decreased enrollment in colleges of agriculture nationwide, certain questions arise. What strategies are most effective for recruiting students into colleges of agriculture? What factors are most desirable to prospective students in the college choice process? Do similarities exist between the factors used in the college choice process of first-time enrollees?

Chapman (1981) developed a model on the student characteristics and factors influencing the college choice process of first-time enrollees (Figure 1). Chapman identified aspirations, aptitude, prior educational performance, and "external" factors as the characteristics and factors that influenced students' choice of college. External factors included significant persons in a student's life, fixed characteristics of a college/university, and communication

efforts. Chapman concluded that the people most influential in the college choice of students were parents, friends, role models, and teachers. Chapman also noted that factors such as the cost of attending an institution, the availability of financial aid from an institution, the geographical location of an institution, the particular courses offered by an institution, and the communication efforts of an institution played a role in students' college choice. Chapman suggested that these factors be taken into consideration when creating strategies to recruit prospective students.

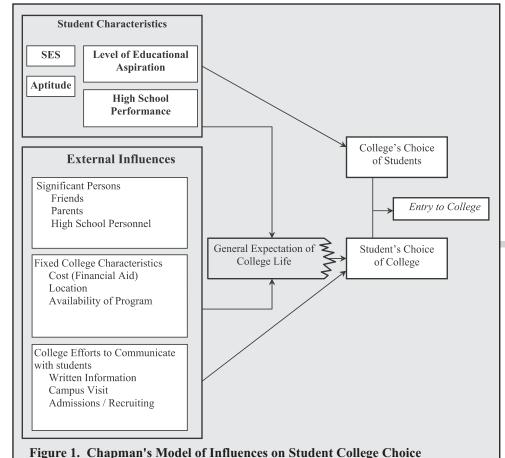
Purpose and Objectives

The purpose of the study was to examine two academic years of first-time College of Agriculture enrollees and describe similarities and differences with regard to factors influencing their college choice process. The following objectives were developed to guide the study:

- 1. Identify the sources of information used most frequently by first-time enrollees in making the college choice and determine the perceived usefulness of the information.
- 2. Combine frequency use and usefulness of the information, through the quadrant analysis model, to prioritize the sources of information.
- 3. Identify the institutional characteristics firsttime enrollees considered in making their college choice.
 - 4. Identify the degree program characteristics first-time enrollees used to make their college choice.
 - 5. Identify and compare the level of influence of selected individuals in the college choice process.
 - 6. Identify and compare principal factors that had the greatest influence on students' college choice.

Materials and Methods

The target population for this two-year descriptive study consisted of an accessible population of first-time enrollees in the College of Agriculture, Food and Natural Resources at the University of Missouri (year one, N=307; year two, N=289). An instrument, developed by Washburn (2002), was utilized to assess the use and usefulness of recruitment



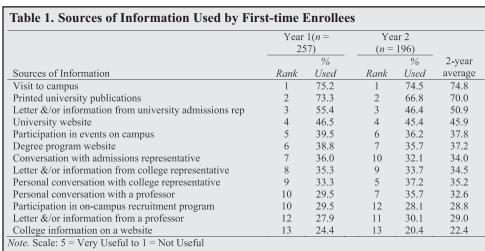
information sources employed by students in making their choice of a college/university. Washburn employed a panel of experts to assess the content and face validity of the questionnaire. The questionnaire was pilot tested resulting in a coefficient of stability of .70 (Spearman-Brown splithalf coefficient). In addition to descriptive statistics, data were analyzed using the quadrant analysis model and principal factor analysis.

First-time enrollees were asked to complete the questionnaire while attending an annual two day college-wide "Summer Welcome" program. During the "Summer Welcome," students registered for courses and learned about the college community. Of the 307 first-time enrollees admitted into the college in year one, 257 completed the questionnaire for an 84% accepting sample. Of the 289 first-time enrollees admitted in year two, 196 chose to complete the questionnaire, resulting in a 68% accepting sample. No follow-up procedures were employed as all

first-time enrollees attending "Summer Welcome" were each given an equal opportunity and an adequate amount of time to complete the questionnaire.

Results and Discussion

The first objective sought to compare the sources of information used most frequently by first-time enrollees and the perceived usefulness of those sources. Nearly three-fourths of the first-time



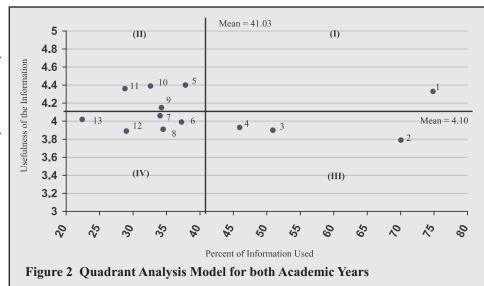


Table 2. Perceived Usefulness of Sources of Information Year 1 Year 2 (n = 196)(n = 257)2-vear Sources of Information Rank M SDRank Maverage 4.39 .95 4.41 .87 4.40 Participation in events on campus 4 39 80 4 38 79 Personal conversation with a professor 4 39 2 Participation in on-campus recruitment programs 3 4.34 .73 4.38 .68 4.36 Visit to campus 4.30 .79 4.35 .78 4.33 Personal conversation w/ college representative 4.22 .79 4.08 .87 4.15 4.10 4.01 .87 .81 4.00 Conversation w/ university admission representative 9 Degree program website 4.01 90 3.96 99 3 99 College information on a website 3.93 95 5 4.10 95 4.02 Letter/info from university admission representative 3.93 12 3.87 3.90 3.89 .83 .91 3.89 Letter &/or information mailed from professor 10 11 3.88 University website 11 3.87 86 8 3 99 89 3 93 Letter &/or information from college representative 12 3.86 .86 10 3.95 .86 3.91 Printed university publications Note. Scale: 5 = Very Useful to 1 = Not Useful

enrollees surveyed for both years indicated that a "visit to campus" (75%) was the most important source of information used when deciding on a college/university (Table 1). "Printed university publications" (70%) and "letter and/or information mailed from a university admissions representative" (51%) rounded out the top three sources of information used by first-time enrollees when choosing a college/university. The least used source of information for first-time enrollees in both years was "college

information on a website" (22%).

Interestingly, "participation in events on campus" (M=4.4) was consistently perceived to be one of the most useful sources of information to first-time enrollees (Table 2); however, fewer than 40% of the enrollees had actually participated in an on campus event (Table 1). "Printed university publications" (M=3.8) was consistently perceived as the least

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useful source of information; however, over 65% of the students in both years used the publications to make their college choice. The top four sources of information perceived to be most useful by prospective students revolved around a visit to campus. All thirteen items were perceived to be at least somewhat useful to first-time enrollees.

The second objective sought to prioritize the sources of information according to the quadrant analysis model (Figure 2). Averages of the sources of

tion from a college representative," "letter and/or information from a professor" and "information obtained from a college website" were the least useful and the least used sources of information for potential students (quadrant IV).

The third objective was to identify institutional characteristics first-time enrollees considered in making their college choice. All characteristics observed were within the "somewhat influential" category (Table 4). The three characteristics reported

to have the greatest influence on students' college choice were "university academic reputation," (M=4.42) "preparation for employment," (M=4.35) and "opportunities after graduation (M=4.33)." "Prominence of university athletic teams" (M=2.64) was the least influential characteristic for first-time enrollees in making their college choice.

Objective four sought to identify degree program characteristics first-time enrollees used in making

their college choice. Enrollees from both years agreed that "career opportunities available for graduates" (M=4.51) was the most influential characteristic in selecting a college (Table 5), while the "number of students in the major" (M=3.09) was the least influential characteristic for selecting a college. Degree program characteristics were ranked identically between first-time year one and year two enrollees.

The fifth objective sought to identify and compare the level of influence selected individuals had upon students in the college choice process (Table 6). First-time enrollees in year 1deemed a "relative who attended the university" (M=3.58) and a "graduate

of the college" (M=3.58) as the most influential individuals when choosing a college, while first-time enrollees in year two ranked a "parent or guardian" (M=3.65) as the most influential individual in their college choice process. When comparing year one and year two, "parent or guardian" (M=3.6) was the most influential individual while "extension youth specialist" (M=2.02) was the least influential person for year one and year two enrollees. The individual

Table 3. Value of Information Sources as Determined by the Quadrant Analysis Model Information Used Quadrant Item Number Visit to Campus II 5 Participation in events on campus 9 Personal conversation with a college representative 10 Personal conversation with a professor Participation in on-campus recruitment 11 III2 Printed university publications 3 Information from a university admissions representative 4 University website IV 6 Degree program website Conversation with an admissions representative 8 Information from a college representative 12 Letter &/or information mailed from a professor

College information on a website

information used by first-time enrollees were taken from year one and year two, as were the averages of the perceived usefulness of the sources of information. The averages were tallied and plotted (1-13) on the quadrant analysis model, according to their rank in Table 1, as another form of visualization (Table 3). The quadrant was divided into four parts ranging from part I, the combination of most used and most useful, to part IV, the least used and the least useful. As a result, a "visit to campus" (quadrant I) was the most useful source of information used among potential students, while "information obtained from the degree program website," "conversations with an admissions representative," "letter and /or informa-

Table 4. Institutional Characteristics Influencing College Choice

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		Year 1			Year 2				
	()	n = 257		((n = 196))	2-year		
Characteristic	Rank	M	SD	Rank	M	SD	average		
University academic reputation	1	4.39	.74	1	4.44	.69	4.42		
Preparation for employment	2	4.29	.95	2	4.41	.81	4.35		
Opportunities after graduation	3	4.26	.97	3	4.39	.82	4.33		
Faculty quality & reputation	4	4.17	.86	5	4.20	.86	4.19		
Quality of facilities	5	4.16	.86	4	4.22	.77	4.19		
Prestige of the university	6	3.98	.98	6	4.12	.90	4.10		
Student quality & reputation	7	3.84	.99	8	4.01	.83	3.93		
Variety of majors offered	8	3.79	1.18	7	4.04	1.01	3.92		
Cost	9	3.74	1.07	10	3.76	1.12	3.75		
Scholarship awarded	10	3.72	1.26	9	3.81	1.23	3.77		
Distance from home	11	3.51	1.23	13	3.44	1.20	3.48		
City in which campus is located	12	3.45	1.25	11	3.59	1.15	3.52		
Available other financial aid	13	3.33	1.29	11	3.59	1.27	3.46		
Competitive admissions standards	14	3.29	1.08	14	3.42	1.09	3.36		
Campus safety & security	15	3.08	1.15	15	3.27	1.21	3.18		
Size of classes	16	2.84	1.13	16	3.08	1.08	2.96		

Prominence of athletic teams

Note. 5 = Very Influential to 1 = Not Influential

Table 5. Influence of Degree Program Characteristics on the College Choice Decision

	,	Year 1			Year 2		
	(1	(n = 257)			(n = 196)		
Characteristic	Rank M SD			Rank	M	SD	average
Career opportunities for graduates	1	4.46	.79	1	4.56	.72	4.51
Quality & reputation of the courses	2	4.21	.97	2	4.26	.81	4.24
Quality & reputation of the faculty	3	4.16	.99	3	4.17	.89	4.17
Quality of facilities	4	4.15	.88	4	4.07	.88	4.11
Quality & reputation of the students	5	3.76	1.08	5	3.93	.98	3.85
Size of classes	6	3.21	1.19	6	3.36	1.09	3.23
Number of students in the major	7	3.01	1.25	7	3.17	1.23	3.09
<i>Note.</i> 5 = Very Influential to 1 = Not Influential							

Table 6. Level of	T Cl	l 4 . J. T., J!! J	- l	11	D
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	Year 1				Year 2			
	(n = 257)			((n = 196)			
Characteristic	Rank M SD		Rank	M	SD	average		
Relative attending the college/university	1	3.58	1.53	2	3.50	1.52	3.54	
Graduate of the college	1	3.58	1.43	7	3.01	1.60	3.23	
Parent or guardian	3	3.54	1.22	1	3.65	1.24	3.60	
Friend in college	4	3.49	1.32	4	3.41	1.34	3.45	
High school agriculture teacher	5	3.28	1.63	5	3.18	1.57	3.23	
Graduate of the major selected	6	3.18	1.57	3	3.42	1.50	3.30	
Current student in the major selected	7	3.01	1.52	6	3.09	1.58	3.05	
Friend in high school	8	2.94	1.39	8	2.92	1.34	2.93	
High school guidance counselor	9	2.72	1.32	9	2.53	1.29	2.63	
Other high school teacher	10	2.52	1.28	10	2.42	1.33	2.47	
High school science teacher	11	2.40	1.29	11	2.30	1.38	2.35	
Extension youth specialist	12	2.03	1.23	12	2.01	1.15	2.02	
<i>Note.</i> Scale: $5 = \text{Very Influential to } 1 = \text{Not Influential}$	al							

exhibiting the greatest difference between the two groups of enrollees was a "graduate of the college." Specifically, students from year one ranked a "graduate of the college" (M=3.58) as the most influential individual, while year two students ranked these individuals seventh (M=3.01). None of the individuals were "very influential" in the college choice process to first-time enrollees.

Objective six sought to identify and compare factors that had the greatest influence on first-time enrollees' college choice. Principal component analysis was used as an exploratory measure to identify questionnaire items that measured similar traits and as a means of reducing data into a more manageable size. Eigenvalues, scree plots, proportion of variance accounted for, and interpretability criteria were considered in determining the number of components to retain for rotation (Washburn, 2002).

Only eigenvalues of one or greater were considered for rotation (Timm, 1975). In addition, scree plots of the eigenvalues were assessed to determine logically occurring breaks in the data. These breaks were used to further determine the numbers of factors to retain so comparisons between the two groups could be made. Washburn (2002) reported that a naturally occurring separation was noticed between the third and fourth component for the data accumulated in year one enrollees. To compare similarities in the data, the same separations were used for the year two data. Only components with a .50 factor loading or higher were used. Out of 53 total questions, 26 were loaded for the year one data and 34 were loaded for the year two data.

Upon rotation, components were grouped into the following four categories for year one and year two data: "Institution and degree program quality" (Factor 1), "influential people" (Factor 2), "personal considerations" (Factor 3), and "sources of information" (Factor 4; Table 7). Factor-loadings in category one (Institution and degree program quality) were identical in year one and year two, with the exception of "availability of other financial aid," "career opportunities available for graduates," "scholarships awarded," and "quality and reputation of students." Ten factor components did not contribute to the analysis and were not included in the initial principal component analysis model (Table 8).

Summary

Over 75% of first-time enrollees stated that a "visit to campus" was useful in the college choice process. This conclusion is consistent with prior findings by Washburn (2002) and Cole and Fanno (1999). Hence, when students initiate a visit to campus, they are more likely to enroll at the institution. Therefore, it is recommended that the institution in the current study invite and encourage students to visit campus. While visiting campus, students should have the opportunity to see, meet, and talk with professors in their career interest area. Furthermore, since students found that participation in on-campus events was useful in selecting a college, it is recommended that these events (State FFA Career Development Events, 4-H events, academic contests, sporting competitions, music recitals, and theatre competitions) continue to be offered and hosted at the institution.

Nearly two-thirds of the students participating in the study used printed publications to make their college decision. However, students deemed printed publications to be the least useful source of information available. The implication is that students are reading the publications; however, the information contained in the publications is not meeting their informational needs. Therefore, further research should be conducted concerning the publications presented to prospective students to determine the type of information most meaningful to them.

When comparing students' rankings of the different types of websites used, less than 25% used the college website, around 35% used degree program

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	Year 1			Year 2				
Questionnaire Items	1	2	3	4	1	2	3	
Quality & reputation of degree program faculty	.77				.80			
Quality & reputation of degree program courses	.73				.70			
Quality & reputation of degree program students	.69				.69			
Quality & reputation of university faculty Academic reputation of the university	.66 .65				.68 .59			
Quality of degree program facilities	.65				.68			
Opportunities after graduation	.64				.57			
Prestige of the university	.56 .56				.55			
Preparation for employment								
Quality of university facilities	.53	=-			.64			
Current student in the university		.73						
Graduate of the major selected		.72					.76	
Graduate of the college or university selected		.68					.54	
High school agricultural teacher		.61					.63	
Friend in college		.58					.58	
Participation in student activity events on campus							.58	
Extension youth specialist		.53						
Other high school teacher		.51						
Relative who attended the college or university			66			60	.56	
Size of university classes			.66			.60		
Campus safety and security			.58			.58		
Size of degree program classes			.56			.71		
City in which campus is located			.56			.66		
University distance from home			.54			.72		
Letter &/or information from a university representative				.61				.6
University information on website				.52				
Personal conversation with a college representative				.52				
Printed university publications				.50				
Availability of other financial aid					.64			
Career opportunities available for graduates					.56			
Scholarships awarded					.55			
Number of students in the major						.63		
Competitiveness of admissions standards						.76		
Prominence of university athletic teams						.57		
Current college student							.80	
High school guidance counselor							.65	
Quality & reputation of students					.63			
College information on website								
Letter &/or information mailed from a professor								.4

Table 8. Factors loading but not contributing to the overall analysis
Questionnaire Items
Friend in high school
Variety of majors offered
Letter &/or information mailed from a college representative
High school science teacher
Parent or guardian
Cost
Personal conversation with a professor
Participation in an on-campus recruitment program
Visit to campus
Degree program website

websites, and nearly half used the university website. In an age where technology continues to increase at a rapid rate, it is difficult to imagine that students are not finding the websites more useful. Furthermore, while only a few students are actually using the websites, those who are using them find them useful in the college choice process. Is it possible that students using the various websites simply cannot differentiate between the three types of websites?

Another possibility might be that students simply are not encouraged to view the websites offered by the college, degree program, and/or university. Therefore, professors and recruitment coordinators should encourage students to view the websites for further information. In addition, all printed publications should reference college, degree program, and university websites.

The reputation of the university has an influence on the college choice process of students. From the results of this study, it can be implied that students desire to attend an institution that is reputable and credible. Students want the assurance that upon graduation, they will be prepared for the workforce and have ample opportunities for employment. Interestingly, the size of the university, its class sizes, or numbers of students in the major had no bearing on the college choice process of these students.

Parents, guardians, and relatives had the greatest level of influence on the college choice process of students. This conclusion is consistent with previous research by Cole and Thompson (1999), Scofield (1995), Taylor and Johnson (1993), and Chapman (1981). Interestingly, the least influential people in the college choice process were those individuals who the student was associated with in high school. This

would imply that students tend to seek advice about college from individuals outside the high school arena. Therefore, attempts should be made to distribute information about the university, college, and degree programs to relatives of interested students.

The four major factors contributing to the college choice process were institutional and degree program

quality, influential people, personal considerations, and sources of information. Characteristics contributing to institutional and degree program quality consisted of the quality and reputation of the faculty, courses, and students. Characteristics contributing to influential people of the college choice process consisted of current students attending the university, graduates of the university and degree program selected, and the high school agriculture teacher. Personal considerations consisted of the size of the university and classes, the safety and security of the university, and the city in which the university is located. The sources of information factor consisted of communication efforts of the university and degree programs (letters and information from a university representative, university information on the website, personal conversations with a professor, printed university publications). In all, first-time enrollees were consistent in identifying these four factors. College recruitment coordinators should use this information in developing and designing recruitment strategies.

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