

The Factors Influencing a Construction Graduate in Deciding upon their Future Employer

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Recent United States construction graduates have witnessed strong competition for their services during the recruitment period. As a result, the majority of construction graduates receive multiple offers from prospective employers. In this environment, it becomes increasingly important for recruiters to understand how students decide what job they will take. A survey of graduating seniors from the Department of Construction Science at Texas A&M University was conducted to identify the reasons why they chose the company they went to work with upon graduation. Graduates evaluated nine reasons for taking employment with the company they chose. Results suggested that construction graduates do not value all the reasons equally. More value is placed on the company's culture, the potential for advancement and type of work. Less value is placed on the entry-level position the graduate was offered and the offer of a signing bonus.

Key Words: College Recruitment, Graduates, Employment

Introduction

Even though the expansion of the construction industry is slowing, and will likely end in 2003, the demand for graduates from the nation's construction programs appears to remain high (Grogan, Ichniowski & Tulacz, 2002). This is reflected in the following quotation from the Bureau of Labor Statistics Occupational Handbook 2002-03 Edition.

“Excellent employment opportunities for construction managers are expected through 2010 because the number of job openings arising from job growth and replacement needs is expected to exceed the number of qualified managers seeking to enter the occupation. Because the construction industry often is seen as having dirty, strenuous, and hazardous working conditions, even for managers, many potential managers choose other types of careers”.

These excellent employment opportunities have led many academic institutions to report almost 100% placement of their construction graduates (Bilbo, Fetters, Burt & Avant., 2000). A survey of construction companies attending the spring and fall career fairs at Texas A&M University identified that there were approximately three jobs for every graduating student (Burt, 2001). It would appear that in an environment such as this, construction graduates have some flexibility when deciding which company they go to work for after graduation.

So, what are the reasons for taking a job with one company and not another? There are many factors that might influence a person taking a job. Some of these might be unique to an individual, such as a family member working for the same company. Others are more general in

nature, such as salary package, location of employment etc. Zingheim and Schuster (2001) argue that in order to attract the most talented people to an organization, a “*Total Rewards*” package is required that has four major components: compelling future; individual growth; positive workplace, and total pay. They want to work for companies that have a positive vision, and a set of values they can support. They also want to grow and develop themselves through meaningful training. They want a pleasant place to work, where the physical environment is as important as the people one works with. Finally, people want a total pay package that includes base pay, variable pay to reward positive results, benefits, recognition, and celebration. A survey of over 2000 college students by the corporate recruitment solutions provider, WetFeet Inc. in 2001 identified challenging assignments, good colleagues and bosses, and training for future growth, as the most important factors in their employment decisions. These were the same factors identified in 2000 (Anonymous, 2001).

In recent years, faculty have noted that signing bonuses are becoming more common. In construction, signing bonuses are considered necessary to attract employees at all levels, however, there is concern they are only effective because everyone uses them (Poe, 1999).

The nature of the construction industry is such that graduates from 4-year degree programs are usually hired as assistants to project managers, field engineers, schedulers, or cost estimators (Bureau of Labor Statistics, 2002). The construction graduate, therefore, has a choice in the entry-level position they accept. The construction industry is also a worldwide industry and students have some choice in the initial location where they will work. Many of the top recruiters of construction graduates have projects and offices in number of states.

Graduates from the nation’s construction programs have a number of different factors to consider when deciding who to go to work for. This study seeks to identify how much value graduates from the Construction Science program at Texas A&M University place on nine specific reasons for taking employment with a company.

Methodology

Study Population

Graduating seniors from the Department of Construction Science program at Texas A&M University from the Fall of 2000, the Spring and Summer of 2001, and the Spring and Summer of 2002 were issued with exit surveys. Of the total 212 students graduating, 182 students completed the surveys, a response rate of 86%.

Data Collection

The Department of Construction Science program at Texas A&M University has been surveying its graduates prior to graduation since the fall of 1997. The exit surveys are very comprehensive and collect data on a vast range of issues such as the student’s perceptions of course suitability, internship programs, and faculty. Information about the number of interviews and job offers the students had as well as the details of the job they accepted were requested. The exit interview

questions have been modified over the years, and in the fall of 2000, a series of questions were added to the survey to evaluate the reasons for taking employment with a company. The particular reasons for taking employment were developed from the current literature and from small focus groups of graduating seniors. Table 1 shows the nine questions used to gain information about the reasons for taking employment with the chosen company. Students were asked to rate their responses using a standard five point Likert scale. Information was also obtained on job offers that the students received as well as the starting salary of the job they accepted and any signing bonuses they were offered.

Variables of Interest

The variables of interest are the number of responses in each of the five Likert rating scales. Values of 1 to 5 were assigned to the responses from strongly disagree to strongly agree. This allows for a mean response to be calculated for each of the nine questions.

Hypothesis

It is hypothesized that students do not place equal value on all of the nine reasons for taking employment. If this is the case, then at least one of the mean responses to the nine questions should be different. The null hypothesis is that the mean responses to the nine questions are equal. An Analysis of Variance (ANOVA) was used to test this hypothesis. ANOVA relies on the assumption that the data is normally distributed with an equal variance. As the responses from Likert rating scales tend to be skewed, it is unlikely that the normality assumption would be met. There are also concerns that using a measure of location such as the mean response may oversimplify the analysis (Clason & Dormody, 1994). In order to compensate for non-normality, and provide greater rigor to the analysis, a non-parametric procedure was used to test the similar hypothesis that there is a statistical difference between the distributions across the 5 Likert rating scales for the 9 questions. The null hypothesis is that the distributions are equal. A Chi-Square test of independence was used to test this hypothesis.

Analysis and Interpretation

Descriptive Statistics

Not all of the 182 students that completed the surveys answered all of the nine questions. A total of 1625 responses were analyzed (182 responses from the 9 questions). The mean response of all 1625 responses was 3.96, indicating that the average response was “agree”. This also confirms the concern that the responses are skewed toward the upper values. Information was also obtained on the number of job offers that the student received. The average number of written job offers was 3.00 an approximately 62% of the graduating seniors received 2 or more written job offers. Table 1 indicates the student’s responses with percentages and mean response value for the reasons for taking employment with the company.

Hypothesis Tests

In order to test the null hypothesis that the mean responses to the nine questions were equal, an analysis of variance was conducted. The results are shown in the table 2. The results indicate that we can reject the null hypothesis that the mean responses are equal (p value < 0.0001). This shows that construction graduates do not place equal value on all of the reasons for taking employment. The next step is to identify those reasons that construction graduates placed more or less value on and a post-hoc analysis to determine a ranking of reasons for accepting a position.

Table 1.

Questions and responses with percentages and mean response on the reasons for taking employment with the company the student chose.

Reasons	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean Response
	5	4	3	2	1	
1. I accepted the position because of the location of the company and/or the location I would be working.	85 47%	51 28%	30 17%	4 2%	10 6%	4.09
2. I accepted the position because of the salary package I received.	46 26%	81 45%	35 19%	10 6%	8 4%	3.82
3. I accepted the position because of the signing bonus I received.	13 7%	31 17%	78 44%	37 21%	19 11%	2.90
4. I accepted the position because of the potential for advancement within the company.	104 57%	64 35%	10 6%	1 1%	2 1%	4.48
5. I accepted the position because of the company culture .	111 61%	53 29%	15 8%	0 0%	2 1%	4.50
6. I accepted the position because of the entry-level position I was offered.	38 21%	78 43%	54 30%	7 4%	4 2%	3.77
7. I accepted the position because of the size of the company .	52 29%	79 44%	40 22%	8 4%	2 1%	3.94
8. I accepted the position because of the training the company offered me.	62 34%	58 32%	52 29%	6 3%	3 2%	3.94
9. I accepted the position because of the type of work the company perform.	75 41%	76 42%	25 14%	4 2%	2 1%	4.20

A further set of hypothesis tests was then carried out to see which of the mean responses to the nine questions were not equal to 3.96 (the mean of all 1625 responses). A one-sample t-test was used to identify those reasons that had a mean response of greater or less than 3.96. It was assumed that if greater or lesser value was placed on a reason then the mean response should be greater or less than the mean response for all 1625 responses. The null hypothesis was that the mean response for each reason is equal to 3.96.

The results of the hypothesis tests are set out in table 3. The null hypothesis was rejected and the alternate hypothesis that the mean response was greater than 3.96 was accepted for company culture, advancement and type of work. The null hypothesis was rejected and the alternate hypothesis that the mean response was less than 3.96 was accepted for entry position and signing bonus. The null hypothesis could not be rejected at a significance level of $p = 0.5$ for location, training, size of company and salary package.

A Chi-Square test of independence was used to test the null hypothesis that the distributions across the 5 Likert rating scales for the 9 questions are equal. Table 4 shows the results of the test. The null hypothesis is rejected and it is accepted that there is a difference in the distributions across the 9 questions. This confirms the results of the ANOVA test.

Table 2.

Results of the ANOVA procedure to test the null hypothesis that the mean responses to the nine questions are equal.

Class Level Information
 Class Levels Values
 REASON 9 ADVANCEMENT BONUS CULTURE LOCATION POSITION SALARY SIZE TRAINING TYPE

Number of observations 1625
 Reasons for Taking Employment
 09:29 Friday, December 6, 2002

The ANOVA Procedure
 Dependent Variable: SCORE SCORE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	324.734308	40.591789	47.75	<.0001
Error	1616	1373.823230	0.850138		
Corrected Total	1624	1698.557538			
	R-Square	Coeff Var	Root MSE	SCORE Mean	
	0.191182	23.27634	0.922029	3.961231	

Table 3.

Results of hypothesis tests testing that the mean responses to the nine questions are equal to 3.96 (mean response of all 1625 responses).

Reasons	Mean Response	t-statistic	Df	Prob>t
Company Culture	4.50	9.71	180	<.0001
Advancement	4.48	9.51	180	<.0001
Type of Work	4.20	3.812	181	0.0002
Location	4.09	1.614	179	0.1082
Training	3.94	-0.310	180	0.7570
Size of Company	3.94	-0.25	180	0.8028
Salary Package	3.82	-1.898	179	0.0593
Entry Position	3.77	-2.885	180	0.0044
Signing Bonus	2.90	-13.532	177	<.0001

Table 4.

Results of the Chi-Square test of independence to test the null hypothesis that the distributions across the 5 Likert rating scales for the 9 questions are equal.

The FREQ Procedure

Statistics for Table of REASON by SCORE

Statistic	DF	Value	Prob
Chi-Square	32	420.8362	<.0001
Sample Size = 1625			

Discussion

The results of the ANOVA and the Chi-square test of independence suggest that equal value was not placed on the nine reasons for taking employment with the company they chose. The results of the t-test suggest that graduating seniors place greater value on the culture of the company they go to work for, and the potential for advancement within the company, while less emphasis is placed on the entry-level position the student is offered, and the offer of a signing bonus.

The results support Zingheim and Schuster's (2001) view that, to attract the best people, employers need to have a package that offers a compelling future with individual growth, and a positive workplace. Construction graduates appear to place no greater emphasis on the salary package they are offered. This is supported by the fact that of the graduating seniors that received two or more offers, approximately 53% of those accepted the position that offered the higher salary. This is supported by the data, which indicated that almost half of the respondents (47%) accepted an offer that was not their highest offer received (as measured by salary).

The literature suggests that the offer of signing bonuses is prevalent within the construction industry (Poe, 1999). This study would seem to support this as approximately 50% of the graduates that accepted a job received a signing bonus ranging from \$750 - \$8,000. The literature also suggests that the offer of a signing bonus is not an effective tool for recruiting. This is reflected in the results of this study that indicate students place less value on the offer of a signing bonus.

The results of the study should aid recruiters of construction graduates during the recruitment process. Recruiters should focus on those reasons that graduates place the greatest value. Greater emphasis should be placed on promoting the culture of the company and the potential for advancement within the company.

The results of this study are from a survey data collected over a three-year period at one university and the findings may not be applicable to construction graduates as a whole. Further studies should be conducted at other institutions to see if the findings are consistent.

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