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# Ranking Student Employment Decision Criteria

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This paper presents the results of a recent survey taken by construction management (CM) students at four U.S. Construction Management programs and the construction industry companies that recruit them. Respondents were asked to rate criteria that affect the students' employment decision. Survey results indicate that although industry has a grasp on the top-5 criteria of importance there remains some misalignment of other criteria of importance. Results indicate the five most important decision criteria by 3<sup>rd</sup> and 4<sup>th</sup> year CM students when considering employment with a company are: *upward job movement*, *salary*, *company reputation*, *company culture*, and *company ethics*. Comparisons between the two surveys are discussed.

**Key Words:** Student Survey, Employment, Hiring, Retention

## Introduction

According to the U.S. Bureau of Labor Statistics (2019), the employment of construction managers is projected to grow 10 percent between the years 2019 to 2028. This growth, which is faster than the average for all US occupations, will lead to numerous employment opportunities for students graduating from construction management (CM) programs. These opportunities can result in competition between construction companies vying for the chance to hire CM students. Therefore, it is beneficial for recruiters to understand what criteria are deemed important to construction management students when making employment offers. A literature review found two studies identifying criteria influence CM students' future employment decisions.

A study conducted by Burt (2003) involved 182 CM students and evaluated 9 employment criteria. Burt's study found that the *potential for advancement*, *salary package*, *type of work company performs*, and *job location* were highly-rated decision criteria. A similar study by Jenkins, Sims, and Fuller (2003) surveyed 133 CM students and evaluated a total of 46 employment criteria. This particular study showed that potential *advancement*, *reputation of the company*, *stability of management*, *company's financial strength*, and *health care benefits* were highly rated by the participating students. The study discussed in this paper is a revised version of the 2003 *Jenkins-Sims-*

*Fuller* study and presents an analysis of the survey responses between students and industry professionals.

## Method

Surveys were conducted on 283 third and fourth year students enrolled in CM programs at four U.S. universities to identify employment opportunities and criteria influencing students' decisions when selecting their future employment from amongst various offers. Representatives of construction-related companies that traditionally hire these students took the same survey. The survey included a 5-point Likert scale for student and recruiter respondents to rate 51 company employment opportunities and criteria that students could contemplate when selecting their future employment.

The 51 employment criteria used in this survey are based on a similar study conducted with construction management students and companies in 2003 (Jenkins, Sims, Fuller, 2003). Due to page limitations, the comparison of results between the 2003 and 2019 surveys will be discussed in a future publication. The survey had each respondent rate the 51 given criteria on a 5-point Likert-type scale (1 = not important, 2 = not really important, 3 = neither important nor unimportant, 4 = somewhat important, 5 = very important) regarding the influencing impact each criteria will have in the employment decision-making process. A composite score for each criteria was calculated from the mean of the responses and was used during data analysis to rank each survey criteria on the level of importance (Boone & Boone, 2012). From an analysis of the Likert composite, a ranking priority from "1" (most important) to "51" (least important) was developed.

### *Collection of Survey Results*

Prior to conducting the study, proposed survey questions and data collection procedures were submitted by each researcher to their university's respective Institutional Review Board (IRB) for approval under Human Subjects research regulations. Collection of survey data began in the spring of 2019 after IRB approval. A copy of the approved survey is found in Appendix A.

Distribution of the survey took place via paper copies, which were collected anonymously by the researchers upon completion. The convenience of the hard-copy format facilitated a high response rate by respondents, but did require researchers to manually input data results into Microsoft Excel for tabulation. Students completed surveys in their classrooms during the spring and fall 2019 semesters, while industry professionals completed their surveys during the Purdue University CM Career Fair in spring 2019. All surveys were completed on a voluntary basis.

### *Participants*

A total of 283 university students and 60 contractor recruiters participated in this survey. The respondents included 135 from Purdue University, 67 from Virginia Tech, 46 from the University of Oklahoma, and 35 from Auburn University. Construction professionals, serving as recruiters for their respective companies, were asked to rate the importance of the same 51 criteria on the same 5-point scale on how they perceive the importance of each criteria to students when selecting a company for employment.

### High and Low Results from the Student Survey

According to Boone et.al (2012), the mean value is an appropriate statistical tool to use for analyzing results. Table 1 presents the 5 top-ranked student survey criteria. The number in the parentheses indicates the mean for each survey criteria. The resulting mean values were used to rank each criteria on its perceived importance.

Table 1

*Student survey, five highest-ranked criteria of importance*

Student Ranking	Criteria	Numerical Score
1	Upward movement in job position	4.64
2	Salary base & bonus	4.50
3	Company reputation within the industry	4.49
4	Company culture	4.46
5	Company ethics	4.41

As shown in Table 1, *upward movement in job positions* was ranked as the most important criteria in the student survey. It is interesting to note that the desirable criteria are split between personal-based and company-based criteria. The company-based criteria included the *company's reputation*, *ethics*, and *culture*, while, personal-based criteria such as *advancement*, and *salary* ranked highly on the student survey. Students also indicated their 'least important' criteria. Table 2 shows the five 'least important' (ranked #47 to #51) criteria from the student survey results. Four of these fell below a 3.0 score and can be effectively considered 'not really important' criteria.

Table 2

*Student survey five lowest-ranked criteria of importance*

Student Ranking	Criteria	Numerical Score
47	Toys: Laptops, Computers, iPad, Cellphone	3.03
48	Size of company, # of employees	2.99
49	Company vehicle	2.90
50	Millennial 'feel' of the company	2.59
51	Company social media presence	2.53

Given the anecdotal evidence of how these criteria are valued to students, the low rankings given to the *millennial feel of the company* and *social media* criteria came as a surprise to the authors. A more detailed comparison between the students and industry professionals is discussed later in this paper.

### Background of Industry Professionals

Sixty members of the Purdue University Industry Advisory Board participated in the survey in the spring of 2019. These company representatives answered the survey based on what which criteria they perceived as being important to students when making their employment decisions. Description questions pertaining to their company's background were asked. Sixty individuals participated in the survey. These 60 included 1 architectural/engineering/design firm, 9 construction managers, 27

employment recruiters, 17 subcontractors, 2 design-builders, and 2 listed as ‘technology’. One respondent indicated a dual listing as a both a construction manager and general contractor and another 1 indicated their company worked as an owner’s representative. One respondent listed multiple descriptions. The 17 subcontractors were divided between 1 each for carpentry, demolition, drywall, glass/glazing, mechanical, and plumbing. The remaining included 7 electrical, and 4 low voltage subcontractors.

The primary industry worked by each company included 36 commercial, 4 residential, 3 healthcare, 4 industrial, 2 wastewater, 4 listed their industry as ‘low voltage/technology/security’, 1 land developer, and 2 telecommunications. One respondent indicated their primary industry was both commercial and residential. Three respondents did not indicate their company’s primary industry.

Three of the surveyed contractors indicated their range of work was on the ‘local’ level. The ‘range of work’ indicated by other companies included 7 in the ‘in-state’ range, 15 in the ‘regional’ level, 25 indicated their work range was on a ‘national’ level, and 9 contractor indicated they worked on an ‘international’ basis. One respondent did not indicate their range of work.

Each respondent was asked for their ‘role’ within their respective company. One is a designer, 1 is a BIM Coordinator, 2 were estimators, 19 indicated they are an executive of the company, 2 were owners/principals, 4 worked in pre-construction, 18 were project managers, 6 were recruiters, 4 listed themselves as ‘operations’, 2 did not indicate a role, and 1 respondent listed multiple roles. No demographic on length of industry experience was collected.

### High and Low Results from the Industry Recruiter Survey

Industry personnel rated the same 51 criteria on the same 5-point scale used in the student survey. Their rating was based on how they as these recruiters perceived the importance of each criteria from a students’ point-of-view. Table 3 shows the five highest ranked- criteria by the industry survey (average score shown in parentheses).

Table 3

*Industry recruiter five highest ranked criteria of importance*

Industry Ranking	Criteria	Numerical Score
1	Company culture	4.65
2	Upward movement in job positions	4.60
3	Company ethics	4.47
4	Company reputation within the industry	4.30
5	Salary base & bonus	4.28

The results from the recruiter survey also reveal a similar, though not identical split between individual-based and company-based criteria as shown in the student survey. The 5 least important criteria ranked by industry are shown in Table 4. Three of these fell below a 3.0 score and can be effectively considered ‘not really important’ criteria.

Table 4

*Industry recruiter five lowest ranked criteria of importance*

Industry Ranking	Criteria	Numerical Score
#47	Size of company	3.07
48	Perks offered by company	3.03
49	Company's social; media presence	2.90
50	Company vehicle	2.70
51	Allow to take leave of absence to pursue Master's Degree	2.42

**Comparison between the Student and Industry Recruiter Surveys**

The 10 top-ranked employment decision criteria on each survey is presented side-by-side in Table 5. The number in parentheses indicates the corresponding importance value for the respective surveys. A point to remember is that in the Likert scale, only ratings equal to or greater than four are considered 'somewhat important' to 'very important.' Within the student survey results, students' rated 20 criteria with a composite score of greater than or equal to 4, while industry rated only 10 criteria with a composite score of 4 or better. Thus, any student ranking less the #20 ranking is below a 4.0 Likert score.

Table 5

*Comparison of student/industry 10-highest rankings of importance*

Student Survey	Ranking	Industry Recruiter Survey
Upward movement in job positions (4.64)	#1	Company culture(4.65)
Salary: base & bonus (4.50)	#2	Upward movement in job positions (4.60)
Company's reputation within the industry (4.49)	#3	Company ethics (4.47)
Company culture (4.46)	#4	Company reputation within the industry (4.30)
Company ethics (4.41)	#5	Salary: base & bonus (4.28)
Company-paid health care benefits (4.39)	#6	Stability of company management (4.22)
Stability of company management (4.38)	#7	Work schedule (4.18)
Company-matching 401K package (4.37)	#8	Training (4.13)
Paid time-off/ Vacation/ Sick time policy (4.36)	#9	Company's financial strength (4.03)
Company's financial strength (4.32)	#10	Company mentoring program (4.00)

Both students and industry recruiters shared the same Top-5 criteria, but ranked them differently. It is interesting to note that *company paid health care benefits* was ranked #6 (4.39) in importance by

students, yet ranked #24 (3.77) in the industry survey. Ranked in the student Top-10, but not by recruiters, included *paid time off*, ranked #9 (4.36) by students vs. #18 (3.88) by industry, and *company matching 401K package* ranked #11 (4.37) by students vs. #13 (3.95) by industry recruiters. Note that within the top-10 highest ranked criteria, both students and industry aligned with 7 of the 10 criteria of importance. *Work schedule*, *training*, and *mentoring* were not in the students’ 10 highest ranked criteria and of these three, only *training* (#17) ranked higher than 20. Survey results also call attention to the differences of importance placed on certain company criteria between those desired by the student and the criteria perceived as important by the industry recruiters. While differences exist, there were a few similarities. For example, both students and industry recruiters scored *variety of projects*, *size of the organization*, and *upward movement in job positions* similarly, Table 6 shows other criteria that were ranked within 10% (5 places) of each other in both surveys.

Table 6

*Similar ranked criteria of importance within 5 places (10%) of each other in both student and industry surveys*

<b>Criteria</b>	<b>Student Rank/Score</b>	<b>Contractor Rank/Score</b>	<b>Student Ranking Difference(+/-)</b>
Upward movement in job positions	#1 (4.64)	#2 (4.60)	+1
Company ethics	#5 (4.41)	#3 (4.47)	-2
Company’s attitude toward continuing education	#24 (3.88)	#21 (3.82)	-3
Variety of project types	#33 (3.46)	#38 (3.47)	+5
Size of the organization	#45 (3.04)	#47 (3.07)	+2
Job title	#46 (3.04)	#46 (3.10)	0

Note that any “positive” value in the Student *Ranking Difference* column indicates that students ranked that particular criteria higher in importance than as perceived by the surveyed industry recruiters and by how much. Conversely, a negative value indicates the students ranked the criteria lower and how much lower. Students and recruiters disagreed with ranking on many criteria. The largest margins of differences between the student and industry surveys are shown in Table 7.

Table 7.

*Major differences in ranked importance [within 10 places (20%)] in both student and industry survey*

<b>Criteria</b>	<b>Student Rank/Score</b>	<b>Industry Rank./Score</b>	<b>Student Ranking Difference(+/-)</b>
Company paid health care benefits	#6 (4.39)	#24 (3.77)	+18
Major medical plan	#12 (4.27)	#22 (3.82)	+10
Dental plan	#15 (4.10)	#37 (3.40)	+22
Tuition reimbursement for continuing education	#30 (3.79)	#40 (3.32)	+10

Challenging vs. mundane tasks	#31 (3.79)	#20 (3.85)	-11
Recognition of work performed	#33 (3.75)	#23 (3.80)	-10
Perks company offers (sports tickets...etc.)	#37 (3.52)	#48 (3.03)	+11
Allow you to take leave of absence to pursue Masters' degree	#39 (3.39)	#51 (2.42)	+12

*Paid healthcare, major medical, dental plan, and perks* received considerably higher rankings of importance in the student survey than in the industry survey. Educational criteria such as *Master's degree* (#39 vs. #51) and *tuition reimbursement* (#30 vs. 40) also received higher scores from the students. The importance of *challenging vs. mundane tasks* was ranked considerably lower (11 places lower) than the industry recruiters perceived.

Lower rankings are similar in both surveys. In fact, the lower-rated criteria reflect scores that are very close numerically. However, as previously mentioned, students often ranked these criteria much higher than the industry recruiters did. The bottom-5 rated criteria are shown for both surveys in Table 8. Both surveys show that the company's 'social media presence' is a low-rated criteria.

Table 8.

*Lowest ranked criteria based on importance*

<b>Student Criteria</b>	<b>Ranking</b>	<b>Recruiter Criteria</b>
Toys- laptop computers, iPads, cellphones (3.03)	#47	Size of the organization (3.07)
Size of company, # of employees (2.99)	#48	Perks company offers (3.03)
Company vehicle (2.90)	#49	Company's social media presence (2.9)
Millennial "feel" of the company (2.59)	#50	Company's social media presence (2.7)
Company's social media presence (2.53)	#51	Allow you to take a leave of absence to pursue a Masters' degree (2.42)

### Conclusion

Overall, the survey results show that students and employers have different opinions pertaining to important company criteria and personal benefits that help graduates choose their future employer. Students rated a majority of company criteria and personal benefits higher than expected by industry. The career path and long-term criteria (health insurance and 401 K retirement plans, for example) are more important to students (>4.0 score) than what the industry recruiters anticipated. The results indicated that industry ranked many criteria lower in importance ratings than students. Therefore, it appears that many company recruiters may offer criteria they believe are important, but in reality, they are not perceived by students as highly important when compared to other company considerations. By structuring company interviews to include the criteria discussed in this paper, the employment process will be successful for both industry recruiters and potential employees. Thus, employers can

offer a position with desirable criteria to a recruit they want to hire, and employees have the chance to accept a company that better fulfills their personal requirements.

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**Appendix A: Student /Contractor Survey**

The below topics are potential decision issues faced by students regarding their future employment. The survey will take approximately 10 minutes to complete. This survey is voluntary. Your grade or standing in the university will not be affected by taking/not taking this survey. Please rate each topic below on how important you when considering employment with a company.

Please use the following scale:

**1 = not important, 2 = not really important, 3 = neither important nor unimportant, 4 = somewhat important, 5 = very important**

TOPIC	Scale
Salary (base & bonus)	1 2 3 4 5
Upward movement in job positions	1 2 3 4 5
Ability to change positions when you wish to try something new	1 2 3 4 5
Travel for your job	1 2 3 4 5
The need to relocate for projects	1 2 3 4 5
Company culture / Company philosophies	1 2 3 4 5
Job title	1 2 3 4 5
Training	1 2 3 4 5
Toys- laptop computers, iPads, cellphones, etc...	1 2 3 4 5
Company vehicle	1 2 3 4 5
Company matching 401K retirement package	1 2 3 4 5



Company profit sharing	1	2	3	4	5
Area of the country you will mostly live	1	2	3	4	5
Flexible work hours	1	2	3	4	5
Employee recognition program	1	2	3	4	5
Size of company – number of employees	1	2	3	4	5
Size of projects – large, medium, small volume?	1	2	3	4	5
Variety of project types – diverse or specialized?	1	2	3	4	5
Overtime work required for a salaried position	1	2	3	4	5
Company’s attitude towards continuing education	1	2	3	4	5
Tuition Reimbursement for continuing education	1	2	3	4	5
Size of the organization	1	2	3	4	5
Major Medical Plan	1	2	3	4	5
Dental Plan	1	2	3	4	5
Work Schedule (number of hours per week)	1	2	3	4	5
Ability to focus on the type of construction in which you plan to specialize	1	2	3	4	5
Company’s client base	1	2	3	4	5
Company’s commitment to professionalism	1	2	3	4	5
Stability of company’s management	1	2	3	4	5
Company mentoring program	1	2	3	4	5
Depth of company’s management skills	1	2	3	4	5
Company’s financial strength	1	2	3	4	5
Company’s commitment to integrating technology in the field	1	2	3	4	5
Company’s attitude toward management training	1	2	3	4	5
Company’s attitude toward craft training	1	2	3	4	5
Company paid health care benefits	1	2	3	4	5
Turnover rate of others in your position	1	2	3	4	5
Turnover rate of company’s key management personnel	1	2	3	4	5
Company’s reputation within the industry	1	2	3	4	5
Company’s safety performance/record	1	2	3	4	5
Recognition of work performed	1	2	3	4	5
Challenging vs. mundane tasks	1	2	3	4	5
Type of Work (High Tech, Pharmaceutical, office, etc...)	1	2	3	4	5
Paid-time-off/Vacation/Sick time policy	1	2	3	4	5
Perks company offers (sport tickets, etc...)	1	2	3	4	5
Allow you to take a leave of absence to pursue a Masters’ degree	1	2	3	4	5
The Company’s use of technology (BIM, Virtual/Augmented Reality, Drones)	1	2	3	4	5
Company ethics	1	2	3	4	5
Company’s charity work / volunteer opportunities	1	2	3	4	5
Company’s social media presence	1	2	3	4	5
Millennial “feel” of the company	1	2	3	4	5