

Specialty Contractors, the Dilemma of Attracting New Employees from University-level Construction Management Programs

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Specialty contractors are facing a challenge when recruiting new hires from university-level construction management programs. Approximately 85% of students graduating from university construction management programs accept offers from general contractors leaving very few student candidates for other areas of construction industry employment, i.e. developers/owners, inspection firms, graduate schools, construction management (CM) firms, government agencies, and specialty contractors. Additionally, as design-build contractual arrangements become more frequently utilized as a project delivery method, it is critical that specialty contractors attract well-educated employees to remain competitive. This paper provides insights into recruitment problems and discusses methods that specialty construction contractors can consider in hiring new employees from these university programs.

Key Words: Specialty contractors, College recruitment, Mechanical, Electrical, Construction management.

Introduction

As design-build contractual arrangements become more frequently utilized as a project delivery method, contractors who perform mechanical and electrical work have become as their name indicates, specialty contractors. Specialty contractors provide services that range from pre-construction to commission work (Tulacz, 2007). Not only are they entering contractual agreements where they are responsible for purchasing, fabricating, and installing their work but they are also designing large portions of the projects as well. Specialty contractors have become critical team members who provide basis-of-design documents, perform design-assist, and are even becoming the engineer-of-record for their particular segment of the work. This practice is also occurring among other specialty work areas. i.e. elevator installation, underground utility work, and finishing trades. Specialty contractors have always carried the labor risk of most construction contracts. It is not uncommon today to find that specialty contractors are often asked to complete design based on schematic drawings and basis of design specifications. This is not entirely new; for example fire protection contractors have historically designed and submitted drawings to local code officials directly for approval. The depth of this trend is changing the knowledge level requirements of specialty contractors' employees and new recruits to these firms. These specialty contractors continue to face challenges in recruiting new employees from university-level construction management programs. A reoccurring discussion between the authors and many specialty contractors is how to better attract students to interviews and entice them to work for specialty contractors.

Expanding on the Theme

During the past year the authors conducted research for specialty contractors - specifically mechanical and electrical contractors - who sought to gain an understanding on how to attract students to come work for them. The preliminary research resulted in more questions being generated than answers. The underlying theme of the research centered on the following three questions:

1. Who are the typical construction management students and what are their career goals?
2. What impressions do construction management students have of specialty contractors?
3. What are construction management programs doing to better represent specialty contracting?

Surveys of students enrolled in the California Polytechnic State University, San Luis Obispo (Cal Poly) construction management program were used to gain an understanding and answer these initial questions. A questionnaire was presented to the students in the form of a career development assignment in which they were required to submit written papers describing their career development plan. In their career development plan they were asked to consider the following:

- nature of work they desired to perform
- compensation and benefits they expected to earn
- company culture and advancement opportunities
- geographic location and work environment

The career development plan assignment was required of students taking courses that directly related to specialty contracting; specifically, a mechanical or electrical building systems course. The students were typically in their third or fourth year within the construction management curriculum. The authors felt these students were best to target since they would have completed their fundamental construction management courses and were now beginning to focus on particular construction industry market sectors, and who were looking for summer internships or cooperative education opportunities for the upcoming summer or quarters.

A review of the student papers helped create the initial suggestion list that could be used by the specialty contractors to improve their visibility within these programs and as a future recruiting element to be added to their recruiting process. The following is a comparison between what construction management students say they want and what specialty contractors have to offer. It is based on the interviews with specialty contractors and the career development plan assignment of the Cal Poly construction management students.

Who are the “typical” construction management students and what are their goals

The demographic of the “typical” construction management student in a four-year university program revealed that seventy (70) percent of the students had recently graduated with a high-school degree within the last two to three years, twenty (20) percent of the students had transferred from another major, such as architecture, architectural engineering, civil engineering, etc. and the remaining ten (10) percent of the students transferred from two-year community colleges with most having earned an associate degree. Reasons indicated for major changes included too much “art” in architecture or too much math and science in engineering. Many of the students had family in the construction industry and a small percentage (less than 5%) indicated that they were relatives of small to medium construction company owners. Additionally, it was revealed that during their academic studies, most construction management students had worked for or had planned to work for a construction company in the capacity of an summer internship or cooperative education opportunity.

Nature of Work

Regarding the type of work that they would like to be involved in, most students expressed that they wanted to be part of something exciting, new, and/or different. A common theme also expressed was their desire to work on high profile projects. When asked about their preferred work duties upon graduation with a construction management degree, they indicated that they wanted responsibility and to be in control and in charge of the work during the entire construction process. When asked about the position they desired, most said they wanted to be a recognized project manager who directs, schedules, and oversees construction on high profile projects – adding that they wanted to be able show others what they built.

Compensation and Benefits

Regarding compensation, students conveyed that compensation is a major priority. All students stated that they were seeking a position with an excellent salary. Salaries mentioned ranged between \$55,000 and \$60,000. Also mentioned was that they would prefer to work for a company that offered annual bonuses, so that they could be

rewarded for their work. They also expected signing bonuses around \$5,000 upon accepting a position to cover moving expenses. Students also mentioned they expected health and dental benefits. Other benefits listed included: gas cards, company vehicles, and housing allowances.

Company Culture and Advancement Opportunities

Regarding the corporate culture of the company they would like to work for, the most frequent comment was that they preferred to work for a company where they would be permitted to continue to develop professionally, indicating that they do not want to perform the same job over their entire career. Most stated that they expected their first position in a company to be project engineer and eventually to be promoted to a project manager. It is the authors' opinion that students have not had a chance to really think about company culture since many of the students have had relatively limited work experience; therefore most of the responses centered on position title and advancement opportunities.

Geographic Location and Work Environment

Most students said they wanted a lifestyle that would allow them to reside and work in the same geographic location. When asked about moving from city to city for work on projects, most students found the transient lifestyle most undesirable. When asked about work hours, students realized they probably would have to work long hours – 50 to 60 hours per week – but would eventually find a position with 40 hours per week.

The Millennial (Generation Y) are here (Birth Years: 1980 to 1995)

After reviewing the “typical” student, their personalities, and their goals, the question arises as to the use of the word typical. Are construction management students typical of their generation, are they millennial? After watching a short video from the CBS News show 60 minutes titled “The millennial are coming” (CBS News, 2007) and a web search on this new generation, the description does fit the average construction management student. Students want to be part of something exciting and new and are willing to change jobs to get what they want. They are constantly communicated through technology by texting and talking on their cellular phones. The graduating senior, while not completely acknowledging they are not ready to be project manager, expresses that they deserve it because they have spent the last 4 or 5 years at a university. Students today not only want to be part of a different kind of company culture than their predecessors (the baby boomers), but they want it at the company of their choice. These students are close to their parents, more tolerant of diversity, comfortable with technology, and are constantly looking for work that has meaning to them. They expect immediate feedback on their performance and openly express that there is more to life than work.

Students' impression of specialty contractors

When directly asked what type of company the students wanted to work for, most indicated that they wanted to be employed by a general contractor. As a follow-up question, students were asked why they would limit themselves to work only for general contractors when there are so many other options available. These results are described below.

Nature of Work

When asked to comment on the nature of work that specialty contractors perform, students stated that specialty contractors were always reporting to general contractors, and therefore they think of contractors who performed mechanical and electrical work as “subcontractors” and not specialty contractors. They further indicated that the general contractor controlled the specialty contractor's work. Even more revealing was that students indicated they felt the work of specialty contractors was mundane and non-glamorous. In addition, the students stated specialty contractor work was redundant. It became quickly apparent that at the junior level of construction management education, only one side is being told.

Another impression students held regarding the work of specialty contractors' was that there is too much engineering related to specialty contractor work. Stating that electrical contracting is for electrical engineers,

mechanical contracting is for mechanical engineers, and heavy civil contracting is for civil engineers. The students also indicated that the work is too technical in nature. This idea that one can manage their way through a career in the construction industry and not understand or have an interest in the technical aspects of construction is truly a major re-evaluation to our understanding of what and how we as instructors in construction education are depicting the construction industry and its careers.

Compensation and Benefits

Students believed compensation from specialty contractors was significantly less than comparable positions with general contractors. Students acknowledged that specialty contractors probably offered annual bonuses, but again expected the amount to be less than the amount with a general contractor. Again this might reflect the level of the student on this opinion, but also the content in many of the classes may not discuss profit margin, and risk and return of Specialty firms in construction. Student expectations seemed to be very high and an additional assignment this year might show some interesting changes in expectations as the economy slows down. Also a comparison of seniors vs. these surveyed juniors might also show a change in expectations.

Company Culture and Advancement Opportunities. The company culture of specialty contractors and how they do business seemed to be lacking in many discussions. Most students indicated that specialty contractors were small companies and that advancement would be limited over time as they progressed through their careers. Relating to their impression that general contractors control the work of the specialty contractors, students commented that they did not want to be looked down upon. For advancement opportunities, students stated that they would need to work in a larger more robust company for advancement. Working for a specialty contractor would not allow them to develop professionally because they would be forced to perform the same job task over their entire career.

Geographic Location and Work Environment. Most students indicated that working for a specialty contractor would involve a work environment where they were traveling from jobsite to jobsite due to the short duration of the work performed on the jobsite by any one specialty contractor. The student's impression was that specialty contractors moved from city to city to work on projects, which they felt was undesirable. Regarding work hours, students commented that the specialty contractors probably worked much longer hours than personnel with general contractors, citing again that specialty contractors worked at the will of the general contractor.

What specialty contractors have to offer

Considering all that is said about specialty contractors, what do they have to offer that students do not realize? When sharing the results of the student papers with specialty contractors, they were bewildered at the impression that students held of them. During our further discussions with the specialty contractors, we learned a number of facts that specialty contractors have to offer.

Nature of Work

The nature of work for specialty contractors is based completely on planning and controlling work. As opposed to general contractors, most specialty contractors must fabricate and install their own work. The work of the specialty contractor is primarily self-performed, with typically only ten (10) percent using sub-contractors (Abbot, 2007). The work of specialty contractors includes varied projects crossing many industry sectors: residential, commercial, and industrial. When a particular sector of the construction industry is down, another industry is typically strong. Therefore, for students wishing to work in a secure economy, it would make sense for them to seek employment with specialty contractors. Specialty contractors ride out peaks and valleys for residential, commercial, and industrial construction industry sectors.

Compensation and Benefits

When compared to general contractors, specialty contractors felt that they paid their personnel better than general contractors. Since most of their work is self-performed, specialty contracting crews are paid a high wage because of the technical requirement of their work and often in the public sector a prevailing wage is paid. It was also noted that many of the large firms were union. Therefore, their management personnel were generally paid above their field personnel. With general contractors, since they have less field personnel on the jobsite, the same comparison is not as strong. Regarding bonuses, specialty contractors felt they definitely have the upper hand over general contractors. The reason given is that a general contractor's profit is usually very small (1% to -2%) on the overall project, whereas the specialty contractor's profit margin is much higher on their portion of the work (Sanvido, 2007). Since their work is self-performed they can better control their performance, thus increasing their actual profit margin, resulting in greater bonuses to be shared at the end of a project.

Company Culture and Advancement Opportunities. Specialty contractors were most shocked at the impression students held regarding the company culture of specialty contractors. The students' belief that specialty contractors were smaller and that advancement would be limited over time was hard to grasp for the specialty contractors. The specialty contractors we interviewed expressed that an employee joining a specialty contractor would be given far more responsibility and presented with a greater number of advancement opportunities, specifically because a company was smaller and self-performed their own work rather than sub-contracting. The specialty contractors stated that a typical path for a new employee was to start as a project engineer on a specific job-site and within five years, that same individual would become a project manager, managing numerous projects and job-sites.

Geographic Location and Work Environment. The students' impressions were almost entirely backwards regarding geographic location and work environment. Most specialty contractors limit work to a local geographic area. Students do not realize that they are able to stay in a local area and not have to move around from city to city following the work. Most specialty contractors have strong connections with their suppliers, labor force, and major clients. Furthermore, as in the case of fire protection contractors, the contractor's relationships with local code officials are key to their business success and structure.

Recruiting from construction management programs

A number of obstacles that specialty contractors face in recruiting from college construction management programs surface with both the assignment and interviews. One of the primary obstacles with academic institutions was their educational curriculums and the lack of educators with specialty construction experience. A secondary obstacle was the lack of access to the construction programs which results in a lack of exposure of specialty contractors on college campuses. It was noted that the firms that perform curtain walls, stucco/plaster/drywall, structural steel fabricators, concrete specialty firms, and many others have no exposure on college campuses.

Academic Institutions

Most academic institutions gear their curriculum toward general contracting. For example, a student's core curriculum is based off building the structure where most support courses are centered on structural engineering rather than the work of specialty contractors such as electrical and mechanical. According to the American Council for Construction Education (ACCE) accreditation requirements, curriculums are required to include complete twenty (20) semester units / thirty (30) quarter units in construction science. This includes structural mechanics, soil mechanics, structural design, construction methods, construction materials, construction graphics, surveying, and mechanical, electrical, and plumbing systems (Johnston, 1990). Upon reviewing the curriculum for a number of university construction management programs, most programs are very strong at structural mechanics, soil mechanics, structural design, construction methods, construction materials, construction graphics, and surveying, but lack a significant amount of coursework on mechanical and electrical systems – sometimes only offering one course to cover mechanical, electrical, and plumbing systems (Mouton and Johnston, 1989). It was the specialty contractor's opinion that this is unfortunate, but nevertheless, meets the ACCE accreditation requirements. This

may explain why some students mentioned that they did not feel comfortable with mechanical and electrical systems and the work of other specialty contractors.

Lack of Resources and Overcoming Them

As far as campus recruiting, many general contractors have a national presence and therefore have staff devoted to college campus recruiting. Specialty contractors being smaller in size and focused on work in a specific geographic location often do not have the resources to send recruiters to college campuses to conduct interviews, or to build the relationships needed to gain exposure for their companies and their segment of the industry.

Specialty contractors must gain a greater presence on college campuses. For smaller specialty firms this may take place in the form of college campus recruiting through a consortium or trade organization. This may take the form as an individual representing several specialty contractors who perform work of a similar nature in a similar geographic area. Another idea is that specialty contractors can host corporate office and field site visits to their projects. During the year, we learned from students that general contractors regularly arrange visits to their projects, showing students what “they” are building, rarely emphasizing the role and the work being performed by the specialty firms. By investing a negligible amount of time arranging visits to their corporate offices and/or conducting field trip site visits they could inform students “who” is really building the project and some of the incorrect impressions being developed could be balanced. Many students could then be encouraged to seek employment with specialty contractors rather than general contractors.

Another major recruiting tool used by general contractors, that specialty contractors could adopt, are summer internships and/or cooperative education programs. Summer internships are an excellent way for specialty contractors to bring students into their company and expose them to their work. The employment commitment being relatively short, students can experience and see for themselves the work of specialty contractors.

Finally, specialty contractors may need to expand their recruiting and promoting from within their own trades, local community colleges, and events that reach into high schools. Promoting from the trades can be an excellent way to create project managers who already know the work specialty contractors perform (Faulkner, 2007). This along with internal educational programs on the academic side for balance could produce quality employees. Reaching into high schools to expose future college students to construction education and the different specialty trades is as important function as many other areas for the long term health of the construction industry.

Summary and Conclusion

Currently, most construction management students often focus on the overall construction process rather than the individual trade work, i.e. mechanical, electrical, or other specialty areas. This appears to result in students who are unaware of the career opportunities that exist with specialty contractors. Construction management academic programs need to review and balance curriculum that addresses specialty contracting. Students need more exposure and education in the design aspect of this work. An improved partnership must be made between the specialty contractor and engineering and construction management programs. The specialty contractors we worked with took notes of the many things general contractors are doing at the university on the students’ side, but trying to duplicate these efforts were not generating the critical mass that was hoped. It is author’s intent to expand the research at other construction management programs throughout the United States so that determination can be made regarding the issue being a global trend, or more of a locality issue.

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