

# Case Study: Economic Downturn Affecting New Graduate Employment

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The current state of the economy has evoked major change in the United States and around the world. The construction industry has unquestionably been impacted by the lackluster economy. The number of projects being built has declined and therefore reduced the contractor's demand for employees. This change has affected the universities that prepare professionals to enter the industry upon graduation. The soon-to-be graduates are ready to enter the workforce, but have far fewer options than graduates did one year earlier. The change happened so quickly the students and employers had little time to prepare. This case study looks at both sides of the hiring process, the employer and the future employee, or in this case the student, to fully understand the current state of employment in the construction industry. In order to lessen the impact of this problem in the future, change literature and theories will be discussed and applied to employing construction management graduates in difficult economic times. Based on the input from the employers, soon-to-be graduates, and change literature an action plan was formed for the Construction Management Department to maintain 100% placement of CMT students upon graduation regardless of the economic situation. The action plan outlines five main objectives: increasing student awareness of the current employment situation; improving how CMT students market themselves; modifying the requirements of the CMT summer internships; providing more networking opportunities for CMT students and employers; and encouraging students and employers to be creative. Although the action plan is formulated for the specific case study, many ideas could be adapted to other construction programs to increase placement in the future.

**Key Words:** Construction; economy; new graduate; employment; placement

## Introduction to the Change

The construction program at Midwestern University began in 1947 as a two-year vocational based associate's degree program. The early program focused on trades including carpentry, masonry, and electrical wiring which prepared students to enter the residential construction field. In 1969, a Bachelor of Science in Engineering Technology was added to the existing two-year degree, allowing the students to choose between the two- or four-year degrees. In the mid 1970's, the department was renamed "Construction Management Technology" and the curriculum was overhauled. The craft courses were dropped along with the 2-year degree, and more mathematics, physics, communication, and technical engineering technology courses like statics, strength of materials, scheduling, and management courses, were added.

Since the mid 70's the program has steadily changed with the addition of technical writing, supplementary estimating courses, design courses, computer software application courses, and required internships. The changes were in response to the demands of the dynamic construction industry and the Accreditation Board for Engineering and Technology (ABET).

The program has always been closely linked to the construction industry. Since the program serves as a major source of professional employees for many regional contractors, their opinion of the strengths and deficiencies of the degree are readily sought. The department developed an Industry Advisory Committee in 1989 that was formed to aid in curriculum modifications, accreditation, and to assist the departmental efforts to become more responsive to the educational needs of the construction industry.

The Advisory Committee, now called the Construction Management Advisory Board (CMAB), provides a link to one of the largest industries in the United States. The construction industry provides work for over 7.7 million people in three major segments: the building segment that constructs residential, commercial, and industrial buildings; the heavy/civil industry builds roads, highways, bridges, and industrial projects; the specialty trades segment provides carpentry, electrical, plumbing, and other more focused services (Bureau of Labor Statistics, 2007).

The goal of the Construction Management Technology Program is to prepare the approximately 40 graduates per year for the demanding and ever-changing construction industry. For the past 20+ years the department has achieved 100 percent job placement of its graduates (D.E. Hobson, personal communication, February 21, 2009). Typically, most May graduates have signed letters of intent six months before graduation (D.E. Hobson, personal communication, February 21, 2009). In February, 40 percent of the May 2009 Construction Management graduates were still looking for jobs (D.E. Hobson, personal communication, February 21, 2009). In September, five percent of the May 2009 graduates still had not secured permanent employment (D.E. Hobson, personal communication, October 2, 2009).

### *The State of the Industry*

The economic woes of the nation are being felt by the construction industry, along with its current and future employees. With the downturn of the economy, many construction projects are on hold indefinitely; and the jobs that are still on track to be built have an increased number of bidders, reducing the chances of getting the projects. Even work that has been put out for bid is being pulled due to the lack of funding. This is reducing the contractor's backlog, or the amount of work that they have on their books for the future, and limiting their need for employees. Many contractors are laying off employees on both the labor and professional side due to reduced work. This is not positive for construction graduates who are looking for employment.

In good economic times the joke in the industry is that graduates just need to be breathing to get an offer. Although it is a bit of an exaggeration, it is not far from the truth. According to Dr. Dana Hobson, Construction Management Technology Department Head at Oklahoma State University, May 2008 graduates had an average of 4.4 offers ranging from \$45,000 to \$70,000 (D.E. Hobson, personal communication, February 21, 2009). The average of the accepted offers was \$50,100 (D.E. Hobson, personal communication, February 21, 2009). In a matter of months the construction industry has experienced a major change that is significantly affecting the hiring process, and the number of offers that employers are extending.

There are two sides to the hiring process, the employer and the future employee, or in this case the student. In order fully to understand the current state of employment in the construction industry, and to develop an action plan to achieve the goal of 100% placement of graduating seniors, the issue must be examined from both sides.

### *The Employers*

Thirty to forty employers come to campus regularly to recruit students for both full-time and internship positions in all three segments of the industry. Employers are becoming more selective in hiring, turning down students that they would have hired in better economic times. This change has been seen in the last 12 months. In 2008 employers were fighting over students, and in 2009 students are finding it hard to secure employment after graduation. The employers are changing their recruiting focus from a national level to more local students at local universities.

Employers are redefining what a "good fit" means to their companies. They are looking closely at what current literature is calling "soft skills" including: personality, drive, willingness to learn, teamwork skills, and passion. Another characteristic that is important is the ability to communicate effectively. Along with personality and communication skills, employers want construction experience, particularly a job in which the students were really getting their hands dirty and learning out on a site. Although these skills and experiences have always been sought after by employers, they are becoming crucial in a tight market.

When asked what students can do to set themselves apart, the first thing that was mentioned was work experience, whether the experience was gained through manual labor or internships. Additionally, they noted the importance of accurately describing past construction experience in resumes and job interviews. It is a way to show passion and a willingness to learn and get the job done.

Extra-curricular activities were also deemed important for two reasons. First, being involved in extra activities shows commitment and drive; additionally it provides networking opportunities for students. Employers will frequently bring recent graduates on recruiting trips because they often already know the current students and the company culture. Recent graduates can be a great resource about the students who could be potential “good fits” for the company. Being involved in extra-curricular activities, particularly the Construction Management Technology student group provides an opportunity for students in different stages in their education to network with upper and lower classmen.

### *The Students*

In February 2009, approximately 40% of the May 2009 CMT graduates had not secured employment after graduation. Some had not received any offers at that time, others turned down offers they did not feel fit their employment goals, and a few had a job offer on the table, but it was not exactly what they were looking for, so they delayed accepting the positions. By May 2009, many of the students were just accepting anything they were offered in fear that the economy would get worse. Four May 2009 graduates went into the military, and two of the students that accepted positions and began working are now dealing with being laid off.

The May 2009 graduates are pointing to the economy as one of the reasons they did not received the average 4.4 job offers similar to the previous year’s graduates. All of the students surveyed had fewer job offers than they expected. Another factor that affected new graduate employment was that many students came back from summer internships with verbal job commitments that never came through as written offers. Those students did not interview in the fall because they were waiting on the written offer that did not materialize.

Students had lots of advice for the underclassmen who would be looking for permanent employment in the future. They felt it was important to get involved with CMS and other campus groups. By being involved, it was suggested to do more than just attend the meetings because employers ask about the extra-curricular activities that are on resumes; and they want to hear about how the student contributed to the organization. The students also recognized the importance of interviewing with several companies, and not just counting on the offer from the company where they interned.

Since two internships are required to complete the CMT degree, one student suggested not interning at the same company twice, so students can learn two different styles of work and increase their knowledge. Additionally, it was suggested to forgo a typical overview type internship where the student is in the field for a couple of weeks, in estimating for a couple of weeks, etc. The overview internship lacked detail. Alternately, students should pick one or two specific skill sets that they want to develop over the summer, whether it is estimating, layout, request for information (RFI’s), or another aspect of the construction field. This newly acquired skill set will make students unique and give them something to talk about during their interviews.

Hard economic times are not new in the United States; they are just new to this generation of students. When you are a part of one of the largest industries it is almost impossible to be economy proof; but it is important to plan for the future, including the fluctuations in the economy. The following sections of this case study will address analysis of the case with regards to relevant change literature, appropriate change theories, and applicable practitioner considerations. Additionally, a detailed plan for the educational unit will be proposed to address the current changes.

## **Relevant Change Literature and Theories Applied to Hiring New Construction Management Graduates during an Economic Downturn**

The current downturn of the economy has evoked major change in the United States and around the world. The effects of this change have impacted larger entities and trickled down into almost every facet of society.

One example is the construction industry, which is one of the largest industries in the United States, employing over 7.7 million people (Bureau of Labor Statistics, 2007). The lackluster economy has reduced the number of projects being built, and therefore reduced the contractor's demand for employees. This change has affected the universities that prepare professionals to enter the industry upon graduation. The graduates are entering the workforce, but have far fewer options than graduates did one year earlier. The change happened so quickly the students and employers had little time to prepare. In order to lessen the impact of this problem in the future, change literature and theories will be discussed and applied to employing construction management graduates in difficult economic times.

### *Organizational Basics*

The dependence of the Construction Management Technology (CMT) program on its environment is obvious; a reduction in work leads to less demand for employees. The program also requires continual interaction with the industry to produce the correct number of graduates with the required skills. The combination of dependency and continual interaction with the external environment makes the program an open system (Burke, 2008). It is important to make the open system distinction, because most change literature assumes that the system is impacted by the environment.

### *The Burke-Litwin Model*

There have been many change theories developed, but the Burke-Litwin Casual Model of Organizational Performance and Change (B-L model) seems to include the notable ideas from its predecessors with additional applicable information, and therefore it seems the most complete model to date (Burke & Litwin, 1992). The model includes twelve organizational variables: external environment, mission and strategy, leadership, organizational culture, structure, management practices, systems, work unit climate, task requirements and individual skills, motivation, individual needs and values, and individual and organizational performance. The model is based on an open system theory which considers the external environment as the input and the individual and organizational performance as the output. The model has feedback loops on the outside to reflect the constant effects of the performance variable on the external environment and vice versa. The remaining variables are considered throughputs.

The B-L model provides an organizational framework that supports the open-system theory and offers "a way of thinking about planned organizational change" (Burke, 2008, p. 201). To take it one step further, the model should be applied to the problem at hand for "purposes of organizational diagnosis and change" (Burke, 2008, p. 201).

### *Application of the Burke-Litwin Model*

One way of determining a model's validity is to apply it to real-world situations. Burke (2008) believes that "the proof of any organizational model is its degree of usefulness for (1) adequately understanding current organizational dynamics (diagnosis) and (2) helping to steer change in such a way that performance of an organization will be improved" (p. 203). When Burke applied the model in real world situations he had the time to develop and administer multiple surveys to define a baseline and frame the change effort. Since that is not an option in this situation, a summarized B-L model will be used to ask critical questions and raise central points about organizational change. With diagnosis and change as the goal, the key questions will be applied to the current situation involving the difficult economic times and the changes that are occurring in hiring new graduates to fill professional positions in the construction industry.

### *External Environment- Customers and Markets*

There are several key external drivers; these are “forces or variables outside the organization that influence or will shortly influence organizational performance” (Burke, 2008, p. 191). The program is accredited by the Accreditation Board for Engineering and Technology (ABET). The accreditation influences the content of the program along with the university that provides degree requirements.

The employers that are hiring graduates would be considered the customers and influence the program significantly. The degree is worthless, if there are no employment opportunities upon graduation. For the aforementioned reason the employer’s opinion about the program content and the graduates is taken very seriously and is conveyed through the Construction Management Advisory Board (CMAB) meetings bi-annually.

Lastly, the economy is a key external driver for not only the program, but the industry that it serves. The economy can drastically affect the need for graduates. When it is good, the demand is high and universities have a hard time producing enough graduates. On the other hand, when the economy slows down so does the demand for new employees.

### *External Environment - Competitors*

The competitors of the Construction Management Technology program are other regional universities that offer similar degrees. The programs compete for students and employers. The real “intelligence” on the other programs comes from the employers. If they see something they like or do not like about a program, or how one program is doing something innovative and they think this practice should be implemented everywhere, they are not shy to inform faculty. Additionally, faculty members from the different regions get together approximately three times per year for competitions and educational conferences. They often discuss current research and program changes.

### *External Environment- Employees*

The faculty members are the core of the Construction Management Technology program. The quality of the program is dependent upon the quality of the faculty. Although university faculty positions are usually seen as good jobs, it is often difficult to recruit faculty to a small town paying them average to below average wages compared to other regional universities. Additionally, there are better paying teaching positions open, making the recruiting difficult.

### *External Environment- Technology*

The technology within the program is currently up to date, but in this world of change some technology will have to be updated within the next year. The students use computer programs like AutoCAD for 2-D Computer Aided Design, Revit for 3-D Computer Aided Design, Timberline for computer estimating, and SureTrak for scheduling. They also use total stations and laser levels to survey. The developers of AutoCAD establish program updates every year and the SureTrak scheduling software has been discontinued. Both will have to be updated in order to keep up with the industry.

### *Internal Environment*

The mission describes the purpose of the overall organization, and the strategy describes “how the mission is to be accomplished” (Burke, 2008, p. 191). The mission of the program was found on the website:

The Bachelor of Science degree in Construction Management Technology is designed to provide highly specialized education that prepares students for successful careers in management of the construction process. To execute the increasingly complex designs of the architect and engineer, professional constructors work with the design professionals but pursue an educational program focused on the construction industry (Construction Management Technology, 2008).

The strategies are much harder to find, but would be considered the program specific outcomes. These program specific outcomes are tied to the accreditation process and are measured by the faculty yearly (D.E. Hobson,

personal communication, March 16, 2009). Although the mission and strategies of the program have been determined, both required some research to find. Consequently the assumption that can be made is that most of the stakeholders, particularly students and employers, do not have a clear idea of the mission and strategies.

To answer Burke's (2008) question "are we still in the right business?", the answer is yes, the students are still receiving a quality education, and the employers are still receiving a quality employee (p. 276). The real issue at hand is if the market is down, how does the CMT program get its graduates placed ahead of other universities? This is what leads us to change.

### *Ready for Change*

Four years ago the CMT department instituted a requirement that all sophomore students apply to the upper division of the program (D.E. Hobson, personal communication, March 16, 2009). Only the top 30 based on a published selection grade point average were allowed to continue in the program and pursue the degree. This limited the number of graduates of the program to 30 per year, and was instilled due to the lack of faculty. The number increased in 2007 to 40 with the addition of a new faculty member (D.E. Hobson, personal communication, March 16, 2009). At the time, limiting the number of graduates seemed crazy to the external constituents. Construction was at an all-time high and the number of graduates was limited. That same idea that seemed so crazy four years ago is what is producing a better graduate of the program today. This higher level of competency is demonstrated by increased national American Institute of Construction exam scores (D.E. Hobson, personal communication, March 16, 2009).

No entity is ever ready for change, but now at least the stakeholders can see a need for change. Change is occurring everywhere due to the economy, so there might be less resistance to change at this point in time than there was when the industry was booming.

### *Culture*

Culture "refers to norms of behavior and shared values among a group of people" (Kotter, 1996, p. 148). Norms of behavior is the common way people act in a certain group; and shared values are goals and concerns of the group that shape behavior (Kotter, 1992). The norms of behavior for the program include: continuous improvement based on industry, student, faculty and accreditation feedback; open-door policy for students; high expectations for student work; and rigorous coursework. The shared values include: faculty caring about students, high expectations for competition teams placing in regional competitions, and providing an excellent education.

The department has a proud history of winning competition teams and 100 percent placement. But, with the graduate placement statistic almost history, the time has come for change, a new strategy. The department cannot control the external environment, but it must respond. "Cultural change, when done correctly, requires new behavior that leads to new attitudes and beliefs and eventually leads to different values" (Burke, 2008, p. 277).

### *Making the Case for Change*

As stated before, making the case for change four years ago was hard, when all signs pointed up. But now, with the economy down, construction down, and hiring down, change is expected. So the looming question is "what changes should be made?" The need for change is evident, but the more difficult case to make will be the actual changes that need to occur. The detailed plan for the future concludes this paper will be addressed in the final section of the case study.

## **Plan of Action to Address Changes Needed in the Construction Management Technology Department to Improve Employment Rate in Difficult Economic Times**

A plan is needed to evoke directed purposeful change. Both strategic planning and action planning provide effective foundations for designed change. The decision was made to address the changes needed in the CMT department through an action plan for the following reasons. The current problem does not require a major realignment with the

external environment, rather small changes that will improve the graduates, or product being produced. Additionally, at this point in time when the University is getting ready to undergo strategic planning, it seems premature to develop a departmental strategic plan. Lastly, strategic planning is typically used to plan proactively for the future, and this plan is a reaction to the current economic conditions.

### *Purpose*

The purpose of this action plan is to respond to the current downturn in the economy. The lackluster economic condition of the United States and the world is limiting construction work, and therefore reducing employers' needs for new college graduates.

### *Statement of the Goal*

*The goal is to maintain 100% placement of CMT students upon graduation regardless of the economic situation.* The only way to accomplish this is to produce a product that employers believe is superior to our competitors. In order to achieve the aforementioned goal the following objectives should be addressed.

### *Objectives and Actions*

#### *Objective 1: Make CMT students at all levels aware of the current tight employment situation*

- Action 1.1: Develop an interactive lecture on the state of the industry and its impact on students. Present the lecture in a required Freshman, Sophomore, Junior, and Senior CMT class or during CMT Industry Week.
  - Possibly add some testimonials from good students this year and their difficulties finding a job, and the mistakes they think they made in the job search
  - Encourage students to "let go" of their preconceived thoughts on readily obtaining employment in the industry.
- Action 1.2: Encourage proactive career exploration through mandatory attendance for students at career fair and networking events.

#### *Objective 2: Improve how CMT students market themselves*

- Action 2.1: Encourage students to interview more.
  - Give bonus points for completing mock interviews through Career Services
  - Provide mock interviews during Industry Week with Construction Management Advisory Board members.
- Action 2.2: To promote better communication skills, change the CMT curriculum to include a presentation in each class.
- Action 2.3: To further enhance communication skills, make a second speech course a required elective - SPCH 3723 Business and Professional Communication, SPCH 3733 Elements of Persuasion, or SPCH 3743 Advanced Public Speaking.

#### *Objective 3: Modify the requirements of the CMT summer internships*

- Action 3.1: Encourage students to take internships with two separate companies performing different tasks.
- Action 3.2: Incorporate a new facet into the internship. This new portion will require students with the help of the company where they are interning, to pick a specific skill set that they are going to focus on improving throughout the summer. Make this a topic that their progress on mastery must be addressed in all reports submitted.
  - This will give them a specific skill set that they are very familiar with to talk about during interviews.
- Action 3.3: Require the students who had a summer internship to present their summer experience to the Freshman or Sophomore level classes the following fall.

#### *Objective 4: Provide more networking opportunities for CMT students and employers*

- Action 4.1: Continue to build the CMT Construction Networking Event and Interview Day.  
The inaugural event was held February 2009, with approximately 13 companies and 50 students in attendance.
- Action 4.2: Encourage CMAB to host a Networking/ Interview Day as part of Industry Week.
- Action 4.3: Provide students the opportunity to attend career fairs at other venues.
- Action 4.4: Encourage Career Services to group all of the construction companies in one area of the College of Engineering Architecture and Technology (CEAT) Career Fair.
- Action 4.5: Encourage more participation in the State AGC Chapter and AGC Construction Leadership Council (CLC) Meetings.

#### *Objective 5: Encourage students and employers to be creative*

- Action 5.1: Encourage students to consider jobs outside the typical norm.  
This could mean considering a job with a subcontractor, rather than a general contractor, or maybe a position in sales, the military, or other non-traditional choices.
- Action 5.2: Encourage employers to hire new graduates outside typical employment parameters.  
Maybe they could take on new graduates for \$30,000 a year with no benefits or keep them on as interns.

### Conclusion

The action plan was developed specifically for Oklahoma State University. Due to the nature of case studies, some of the ideas presented may not apply to all programs placing Construction Management Graduates in the industry. In the past a majority of our students typically sought work with general contractors (building and heavy-civil) who offered entry level positions leading to project management. Additionally, students have taken positions in the construction industry like estimator, field engineer, preconstruction services, and assistant superintendent. Recently more students have also turned to the oil industry and sales positions.

Although this economic downturn is not new to the industry it is new to the students, young construction firms and programs. It is important to find ways to increase the employment opportunities for students when the economy is good, but it is essential when times are bad. Future studies could focus on different areas of the country providing multiple perspectives on the topic. Furthermore, more students, employers, and educators could be interviewed to provide more robust findings.

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