Architectural Engineering & Construction Roundtable Report

In March, 2017 D. Gene Alliance – Crestcom International hosted an industry round table discussion for the Architectural, Engineering & Construction (AEC) industry. Eleven industry leaders spent two hours discussing four significant human capital issues confronting the industry. This report captures content of the discussion including potential solutions.

1. **The Skills Gap**: Finding people to build projects is a challenge. Jobs are here but, skilled trades and architects are not. What can be done to change this fact?

2. **Millennial (Generation Y) Challenge**: This large generation in the workplace has unique characteristics. How do we effectively hire, motivate and retain millennials?

3. **Engagement**: Annual cost of non-engagement to businesses is in the billions of dollars. What can we do to change this trend?

4. **The Boomer Cliff**: 10,000 Baby Boomers are age eligible to retire, every day. How do we keep knowledge and best practices within organizations as this large employee group retires?
The Skills Gap

Industry impact:

- 10 – 30% of revenue is lost based on a lack of talent
- 31 million job vacancies in 2020
- In Skilled Trades, for every loss of 4 we add only 1
- Gap includes literacy, math & problem solving skills
- USA more formally educated. Creates reduction of skilled trades.
- Exodus of talent due to retires, alternative careers, entrepreneurship
- Negative perception of AEC industry
- 53% over 45

The skills gap is causing a lack of talent in skilled trades, architecture and design disciplines. According to Ali Brown, Executive Director of Indiana Construction Roundtable Foundation, there are 130,000 people working in skilled trades in Indiana and there are 70,000 more openings than employees. “Indiana simply doesn’t have the people to build roads and complete projects.” To further prove this point, Jeff Echols, Membership Development Director of AIA Indiana, noted at recent career fairs, Ball State University’s College of Architecture and Planning (CAP) & Notre Dame, there were more firms competing for graduates than there were graduates!
Adam Campagna, Business Development Manager for Shiel Sexton, noted firms need to be more creative in hiring talent. “We are finding graduates want to leave Indiana, but it’s not because there are no opportunities. There are other aspects. In central Indiana alone there are 4 – 5 projects in excess of $200 million expected to commence between the next 2 – 5 years. We have a dire need to identify quality candidates!”

So why can we not identify talent to work our projects? Why can we not find skilled workers? One reason is skilled trades have a perception problem. Brown noted parents “inside the donut” (Larger Indiana cities like Indianapolis and Fort Wayne), don’t want their kids to go into trades. They think these careers are not lucrative or prestigious enough. This is an incorrect perception of skilled trades. Salaries are lucrative and vast levels of responsibility are available.

Many people don’t know or understand the many benefits available in a skilled trade’s apprenticeship program. Programs essentially provide free education with a degree from a technical school and debt free graduation. Although a lot of individuals are not taking advantage of the many apprenticeship programs available, many organizations are utilizing apprenticeship programs to generate talent and are succeeding filling permanent positions. One program is in Hamilton Heights where they deliver graduates from the program ready to start work.
Another factor contributing to the design and architecture skills gap is rising cost of a 4 year degree. The debt commitment is causing many to consider alternatives. This is dramatically impacting AEC. Brown went on to state “I’m beginning to wonder if we are reaching the point where students simply cannot afford degrees? We may be reaching a crisis here!”

Also, there is competition between the skilled trade positions and white collar positions. Brent Shopp, Management Consultant & Current Director, Career Services, Eleven Fifty Academy states. “Let’s face it a CNC operator makes $40,000 per year, but a .NET job (computer engineer) makes $75,000 per year. Candidates are going after the higher paying jobs even though there is a huge demand for Operators. Shopp goes on to note “ALL skilled trades are in the same boat – certified nursing assistants, zookeepers, construction workers, etc.”

**Strategies to address the Skills Gap;**

- Assessments to determine actual skills required. Don’t assume
- Establish, build & monitor engagement to aide retention
- Obtain team input when recruiting to ensure successful hires
- Partner with education as feeder pools for talent
- Use innovative feeder pools for recruitment like correctional facilities

D. Gene Alliance, Inc âCrestcom International, LLC
(317) 910-4318
darryl.warren@crestcom.com
Promote AEC as positive and innovative. Alter perception
Provide extensive training to educate and build engagement
Defense to increase retention
Establish Mentorship / Apprenticeship program

Millennial (Generation Y) Challenge

Industry impact:

- Large portion of our population @ 83.1 million
- Do not view AEC as an attractive career
- $200 billion annual spending power
- 1 in 4 leaders are millennials
- 1 in 3 works for someone younger
- By 2020, 50% of workforce will be millennials
- Viewed as entitled based on how they were parented. (1st generation to reward participation -vs- results)
- Entitlement contributes to Impatience
- 4 in 10 will quit if employer has sub-par technology

Adam Weber, Co-Founder / VP Sales of Emplify speaks and consults on the concept of Employee Engagement. He stated millennials average 1.8 years at their current job. He notes some of the softer characteristics of this group are unique and different than previous generations. “If you don’t engage the heart of this generation, they’ll leave. They desire meaning
and a mission. If you can grab that passion, you can accomplish some pretty cool things.” Weber states communicating with the millennial staffer requires radical candor. “You have to say, very bluntly here’s what I'm impressed with, and here's where I need to see improvement and growth.”

Shopp agrees, “Early in my career, if my boss didn’t say anything to me, I was doing a good job. Millennials need more confirmation, but NOT on an annual review. You have to communicate with your people often. If you want to know what drives them, ask frequently”.

Ali Brown offered a personal perspective. “I'm a millennial; those my age and a little older graduated into a lousy economy with huge educational debt. We watched our parents get beaten up by companies who rewarded loyalty with pink slips. We started asking ourselves, “Why should we be loyal to a company when they will leave or downsize? That’s why we start our own businesses; why we are not loyal, not looking for a long term investment. We have fear around buying in long term.”
Strategies to manage Millennial (Generation Y) Challenge

- Identify and communicate a clear mission
- Determine “Why” of organization and articulate it to employees
- Promote technical and digital aspects during recruitment
- Ensure paths for employees to get new skills
- Seek frequent feedback and actively listen
- Incorporate new challenges into project assignments
- Use flex time scheduling. Concept of “work day” has changed.
- Build strong subordinate relationships. Critical to retain millennials because loyalty changed in the workplace. Employees are loyal to supervision, not organizations.

ENGAGEMENT

Industry impact

- In US, 40 – 60% of employees are disengaged
- Disengagement costs $3,400 per every $10,000 of payroll
- Overall cost to business is $450 billion
- Disengagement reduces operating income 33%
- Disengagement reduces retention to 41%
- Over 60% of safety happen based on poor engagement
- Hi engagement businesses beat competition by 147%

Adam Weber provided a definition of engagement:
Knowledge era asks “Are you just putting in your hours?”
Engagement asks “Are you bringing your best self every day?”

What we are asking is are the head, heart and hands in alignment? If so, we may be successful. The mind, passion and action must be congruent to create a safe place. To build and foster engagement a safe environment must be present.

Jeff Echols related experience of career fairs. “Students wanted to know about my day, and if their why aligns with the why of the firm. If so, then there is a connection between the future employee and the firm (that could extend from 1 year to 4 or 5). Currently brand reputation and corporate mission are a higher priority over salary.

Strategies to increase engagement.

- Identify engagement measurement tool and implement
- Do not conduct an engagement tool unless there is top down commitment to address any issues revealed
- Incorporate expectation of engagement into on-boarding process
Remove silos & caves. Sr. leadership must interact with entire team
- Legally & creatively factor engagement into performance expectations
- Determine organization’s “Why” and articulate it clearly
- Utilize methods to establish and build trust

BOOMER CLIFF

Industry impact:

- Workforce percentage of retirees grew from 10% to 17% in 6 years
- Workforce percentage of Baby Boomers reduced from 82% to 66% in 10 years
- Individuals age 85+ will double by 2015
- Individuals 65+ will rise to 40% by 2050.
- US will feel healthcare cost effects from Boomers for next 45 years
- 1 of every 4 organizations have no replacement plans to backfill retirees.
Ron Fisher, COO of Schmidt Associates noted not only are Boomers leaving but, so is the knowledge! How do we capture and retain knowledge? We find if people are invested in the organization, they don’t leave as readily. I also know throwing money at a departing employee doesn’t tend to work.”

Campagna noted Shiel Sexton is seeing this issue more in field operations, along with the ongoing issue of attracting young talent. The economy played a part in this area. Echols observed the economic downturn in 2007 – 2010 hit the industry hard. There was 40% unemployment in AEC and firms began losing projects to individuals that had gone out on their own. As of three years ago, small firms (five members or less) made up 50% of AIA’s membership.

Brown’s organization exists because the industry had to come together to address human capital issues. Many were desperate. “Unions don’t want everyone to know their bench is empty due to the talent retiring. General contractors don’t want competitors to know they don’t have people to complete the project. Major entities are having trouble even getting firms to bid on projects.
Darryl Warren, Crestcom, stated several firms expressed hesitancy to attend this roundtable with fear of revealing too much to competitors that may be present. Ron Fisher agreed, “Ten years ago, the industry was more congenial, less competitive.”

Strategies to address Baby Boomer exodus:

- Provide scheduled time to record valuable tribal knowledge
- Tailor positions to meet older workers needs
- Reward older workers often and publicly
- Promote legacy aspects of other family members working for same organization. A unique feeder pool
- Identify and utilize creative feeder pools including correctional facilities
- Allow older employees to pursue personal interests during work hours
- Encourage older employees to stay as Consultants

The four human capital issues reviewed and discussed can negatively impact organization’s ability to be effective and operate as one high performing team. As a real world example of team dynamics, Eric Zeto of PLATINUM EARTH shared a story.

The art and science of racing. A true example of the importance of team.
It’s amazing to think about 400 or 500 miles of a race, and all the variables that come into play, you would think that winning is luck or random. If that were true, why do the same teams consistently win? Six of the last 10 wins have been won by Penske. Is that random?

Teams that are consistently successful have the same attributes.

- Large financial resources
- Big teams (large amount human capital)
- Best technology

Eric was with Players-Forsythe Racing in the early 2000’s. The budget to run the race team was $32 million to manage 2 cars. The shop had full manufacturing capability, plus a championship car designer, large staff, all the gadgets anyone could ask for.

“But we didn’t win!” We might qualify 5th one weekend, and 15th next, but rarely won! What we needed to do was develop attitudes of winning, a culture of winning. What were some of the problems?”

- Conflict; Us -vs- them mentality. Mechanics -vs- engineers
- Poor communication
- Silos everywhere
By 2006 we learned how to win. We learned to communicate. We invested in training & education and put people in positions to succeed based on skill set and attitude. We physically tore down walls and silos. Every morning, I would take my coffee and go around and talk to each person, engage them, remind them of the mission, and LISTENED. That was how we repaired the team dynamics and started to win.

The 4 human capital issues discussed: The Skills Gap, Millennial Challenge, Engagement & Boomer Cliff are just a few of the many people related issues facing the AEC industry today. This resulting report from our discussion was completed to offer collaborated findings and solutions to benefit the industry. D. Gene Alliance - Crestcom International will continue to organize and host similar roundtable discussions. We know through collaborative, intentional and honest analysis, industry leaders can help solve our biggest challenges. Success is not by accident!

Darryl E. Warren
President – D. Gene Alliance
D. Gene Alliance would like thank the following attendees for their active participation. Without their insight, this report would not had been possible.

Attendees:

Ali Brown, Indiana Construction Roundtable Foundation, ED
Adam Campagna, Shiel Sexton, Business Development Manager
Jeff Echols, AIA Indiana, Membership Development Director
Ron Fisher, Schmidt Associates, COO
Dale Hinshaw, Omni Consulting
Rosalie Jooma, Reima Marketing
Lynn Molzan, Delaware Studio
Brent Shopp, Eleven Fifty Academy / Q Solutions
Adam Weber, Emplify
Eric Zeto, Platinum Earth
Heather Zeto, Platinum Earth