SOA
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Session 5C
My Past Just Crossed My Future:
The Global Actuarial Workforce of the Future

Steve Bochanski
Arpita Das
Grace Grant
Kelly Hennigan

October 27, 2020
Active participation in the Society of Actuaries is an important aspect of membership. While the positive contributions of professional societies and associations are well-recognized and encouraged, association activities are vulnerable to close antitrust scrutiny. By their very nature, associations bring together industry competitors and other market participants.

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Introductions!

- Steve Bochanski
- Arpita Das
- Grace Grant
- Kelly Hennigan
POLLING QUESTION:

“My Past Just Crossed My Future” is a song by...?

A. Imagine Dragons
B. Billie Eilish
C. Styx
D. The Four Tops
E. The Go-Go’s
Today’s Roadmap
Forces driving the actuarial profession to change

Social, demographic, and technological changes driving disruptions within the actuarial profession

- Robotic Process Automation
- Data & Analytics
- Artificial Intelligence
- Employment Structure
- Reskilling
- Digital Disruption
- InsurTech
- Culture
- New Environment
- Multi-gen Workforce
- Workspace
- "Gig" Economy
- Mobility
- Total Rewards
- Diversity & Inclusion
- Employee Experience
- New Techniques & Professions
- Skill Shortage
- Agile Workstyle
- Social Impact
- New Environment
- Social Impact
- Workspace
- Total Rewards
- Diversity & Inclusion
- Employee Experience
- New Techniques & Professions
- Skill Shortage
- Agile Workstyle
- Social Impact
## Impacts on the actuarial profession

These external forces have unique impacts on actuaries that require us to adapt or be left behind

<table>
<thead>
<tr>
<th>The Modernization Effect</th>
<th>The Profession at Risk</th>
<th>A Broader Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>How will Modernization impact the current and future actuarial workforce?</td>
<td>In what ways is the profession itself most likely to be truly disrupted?</td>
<td>How can actuaries utilize strengths / training / education to expand into new areas of practice?</td>
</tr>
<tr>
<td>What new skills are needed and how will these be developed? What existing skills will no longer be needed and can be deprioritized?</td>
<td>How will the changing nature of risk and the future of insurance pressure the profession to remain relevant?</td>
<td>Where can actuaries add the most value? Where can we have the most impact?</td>
</tr>
<tr>
<td>How will companies handle those unable to adapt? Retain high performing actuaries? Attract new top talent?</td>
<td>What is the value of the actuary? What is the value of the credential? What defines an &quot;actuary&quot;?</td>
<td>What are the barriers to actuaries working in these areas?</td>
</tr>
<tr>
<td>How will boundaries between actuaries and other professions be impacted?</td>
<td>When are we most likely to experience these pressures and what steps must be taken today to prepare for them?</td>
<td>How do actuarial credentialing / educational bodies need to adapt to improve accessibility to other areas for actuaries?</td>
</tr>
</tbody>
</table>
Going Global: Trends in the Industry

**SOA Members: 31,209***

- United States: 20,550
- Latin America: 3,169
- Canada: 1,109
- China: 1,222
- Asia-Pacific**: 5,139
- Rest of the world: 1,109

**SOA Candidates: 41,506***

- United States: 24,119
- Latin America: 6,471
- Canada: 2,037
- China: 3,631
- Asia-Pacific**: 5,142
- Rest of the world: 106

*Data as of 12/31/2019

**Hong Kong, Indonesia, Korea, Macao, Malaysia, Philippines, Singapore, Taiwan, Thailand, Vietnam
POLLING QUESTION:

Choose Your Own Adventure! Which of the following topics should the panelists discuss?

A. Data Scientists... Kindred spirits or existential threat?

B. Actuarial Skills of the Future... Can we rely on actuarial exams and CPE alone?

C. Breaking New Ground... Actuaries in the places you’d least expect to find them!
Data Scientists... Kindred spirits or existential threat?

Actuaries and data scientists share similar skills, but their roles will be complementary.

Today, actuaries spend a disproportionate amount of time on data preparation at the expense of analysis, which is more valuable.

Robotic process automation, artificial intelligence, and other emerging technologies will continue to automate many manual responsibilities of the actuary. Data scientists can further help to allow actuaries to focus on the areas of greatest impact.

### Roles of actuaries and data scientists will be different in 2030

<table>
<thead>
<tr>
<th>Today</th>
<th>2030</th>
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<tbody>
<tr>
<td>Life underwriting/pricing</td>
<td>Actuaries</td>
</tr>
<tr>
<td>Risk &amp; capital management</td>
<td>Actuaries</td>
</tr>
<tr>
<td>In-force analytics</td>
<td>Actuaries</td>
</tr>
<tr>
<td>Reserving</td>
<td>Actuaries</td>
</tr>
<tr>
<td><strong>Data Acquisition &amp; Transformation</strong></td>
<td><strong>Methodology Research &amp; Development</strong></td>
</tr>
<tr>
<td><strong>Model Development &amp; Maintenance</strong></td>
<td><strong>Financial Planning</strong></td>
</tr>
<tr>
<td><strong>Results Analysis, Reporting &amp; Communication</strong></td>
<td><strong>Risk Management</strong></td>
</tr>
<tr>
<td><strong>Predictive Analytics</strong></td>
<td><strong>Key skills for actuaries vs data scientists</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actuaries</th>
<th>Data Scientist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill rarely used / Low level of training</td>
<td>Skill used often / Highly trained</td>
</tr>
</tbody>
</table>

### Key skills for actuaries vs data scientists

- **Actuaries**
  - Life underwriting/pricing
  - Risk & capital management
  - In-force analytics
  - Reserving

- **Data Scientist**
  - Methodology Research & Development
  - Model Development & Maintenance
  - Financial Planning
  - Results Analysis, Reporting & Communication
  - Risk Management
  - Predictive Analytics
Actuarial Skills of the Future

The demand for critical key skills such as new technical, digital and soft skills is skyrocketing, yet only few companies have established training programs to keep up with this demand.

Top technical/digital skills
- Data management/cloud
- Predictive modeling
- AI/machine learning
- Robotic process automation
- Internet of things
- BI/visualization

Top soft skills
- Business acumen
- Leadership
- Communication
- Relationship
- Project management

According to PwC’s actuarial modernization survey, only 17% of life insurance respondents have some structured training program.
Breaking New Ground…
Actuaries in the places you’d least expect to find them

Actuaries are utilizing their skills to make a positive impact in other sectors beyond insurance.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>Establishing oil well drilling locations, Oil well decommissioning liability calculations</td>
</tr>
<tr>
<td>Information Technology</td>
<td>HR analytics for a large technology firm, Evaluating captive risk at Google</td>
</tr>
<tr>
<td>Materials / Industrials</td>
<td>Aircraft fleet and pilot management, Cost model validation for a large infrastructure project</td>
</tr>
<tr>
<td>Communication Services</td>
<td>News website algorithm design, Telecom embedded value modeling</td>
</tr>
<tr>
<td>Financials</td>
<td>Global investment consulting, Credit risk modeling and analytics at large banks</td>
</tr>
<tr>
<td>Utilities</td>
<td>Understanding risk in renewable energy</td>
</tr>
<tr>
<td>Healthcare</td>
<td>Data analytics for an Accountable Care Organization; Epidemic prediction and prevent management</td>
</tr>
<tr>
<td>Real Estate</td>
<td>Stress testing of a housing providers balance sheet</td>
</tr>
<tr>
<td>Consumer Staples / Discretionary</td>
<td>Football research and strategy, Evaluating Captive Risk &amp; Adding Value at Amazon</td>
</tr>
<tr>
<td>Nonprofit and Government</td>
<td>Financial modeling for a recycling start up, Strategy and expansion planning for a tutoring org</td>
</tr>
</tbody>
</table>

What sectors have we seen actuaries working in?
POLLING QUESTION:

Choose Your Own Adventure! Your firm recently appointed you as the actuarial liaison working with HR to further develop the actuarial program. Which of the following would you most like to learn about?

A. How to attract talent to your company and improve actuarial recruiting

B. Risks impacting actuarial recruiting
POLLING QUESTION:

When it comes to internship experiences, what is most important to the next generation?

A. Rotational Opportunities
B. Mentoring
C. Relocation Assistance
D. Meaningful Work
POLLING QUESTION:

What do you believe is a leading factor in employment decisions to the next generation?

A. Culture
B. Compensation
C. Work / Life Balance
D. Relocation Assistance
Recruiting Tomorrow’s Talent – Strategic Considerations

Consider these five key takeaways as you reflect on your company’s recruitment strategy

1. **Develop Relationships Across the Country**
   - Utilize virtual platforms to expand your talent pool outside of a few target schools

2. **Recruit for Diversity Authentically**
   - Send a diverse set of speakers to campus, authentically bring your culture to your events

3. **Empower Continued Learning**
   - Utilize rotational programs and non-traditional actuarial roles to broaden your actuarial program’s opportunities

4. **Be Present For More Than Just The Career Fair**
   - Continually engage with students throughout their collegiate careers and maintain these networks for an edge during recruitment

5. **Support The Growing Collaborative Industry Efforts**
   - Partner with national organizations to grow your reach and impact students
Innovative Industry Solutions

Broad industry partnerships enable solutions to recruitment timeline, diversity, and skills gap barriers

**Summer Internship Programs**
GIS’s Project-Based internship provided students real experience in lieu of cancelled internships

**GIS Learning Portal**
In partnership with the National Alliance, GIS offers professional development modules for students to enhance their professional skills

**IABA/OLA Programs**
IABA Boot Camp and OLA Academy offer Black and Latino candidates soft skill and technical training, along with robust networking opportunities and mentorship pairings

**National Recruiting Networks**
GIS offers a national network of students and schools through conferences and virtual events that expand your talent pool and diversify your pipeline
Recruiting Tomorrow’s Talent...
Reimagined Recruitment Process

Continuous engagement and candidate filtration ensures adequate employee/employer fit, leading to higher offer and retention rates for full-time employment

1. Campus Interaction
   - Company visit to campus, company building tour, teach a class for a day, mini case-competition, virtual presentation, networking sessions, etc.

2. Identify High-Potential Candidates
   - Identify high-performing students and initiate long-lasting relationships that focus on student success
   - Broaden your talent pool with national organizations

3. Deploy Innovative Learning and Training
   - Students encouraged to participate in part-time learning programs or case studies
   - Group students with mentors
   - Host job shadows or case competitions

4. Summer Internship or Experience
   - For qualified candidates:
     - Build internship around their developmental goals
     - Display strong culture
   - For not-yet-ready candidates:
     - Encourage summer-learning activities or other internships
     - Pair with mentor to keep in touch

5. Deploy Relationships and Value Flexibility
   - Use part-time school-year internships to access top talent that was hard to recruit during the traditional cycle
   - Capitalize on long-lasting relationships you’ve built during traditional recruitment cycle to easily recruit top talent

6. Utilize On-Campus Talent
   - Use incoming analysts as “brand ambassadors” on campus
   - Utilize their network on campus to recruit potential talent
How important is it to you to have a mentor in a work environment?

- Extremely Important: 38%
- Very Important: 45%
- Moderately Important: 15%
- Slightly Important: 1%
- Not At All Important: 0%

On-Campus engagement preferences outside of career fairs (ranked):

1. Information Sessions
2. Club Meetings
3. Job Shadows
4. Classroom Visits
5. Alumni Events/Engagement
Recruiting Tomorrow’s Talent...
Traditional Recruiting Cycle

Traditional process lacks consistent engagement and early identification of potential talent

1. Campus Engagement
   - On-campus speaker event to introduce company, interaction with a few actuaries

2. Career Fair
   - Virtual or in-person, quick interactions with students to raise awareness about the company and screen students for interviews

3. Interviews
   - First round interviews screen candidates on general qualifications, whereas second round interviews focus on company fit and potential

4. Internship Experience
   - 8-12 week summer internship that incorporates real project work with networking and culture exploration

5. Full-Time Evaluation
   - Interns are evaluated against their peers and some are offered full-time jobs

6. Full Time Employment
   - Some offeres accept return full-time offer and return to the employer after graduation
Traditional Recruitment Cycle Challenges

More than 60% of interns do not pursue another role or are not offered a full-time position

Of those who had a prior actuarial internship:

- Accepted Return Offer: 39%
- Declined Offer/Did Not Apply: 34%
- Not Offered Return Position: 27%

Key Challenges

- Finding Qualified Talent
- Retaining Qualified Talent

40% conversion ratio is very costly to employers
Future of Talent Overview

Gamma Iota Sigma (GIS) has identified four drivers of traditional recruitment cycle challenges

- **Rapid Recruitment Timeline**: A hypercompetitive recruitment cycle leads to quick decisions by both candidates and employers.

- **Candidate/Employer Mismatch**: Many candidate preferences do not align with what the employer is able to offer.

- **Candidate Skills Gap**: High turnover rates in internship programs demonstrate need to address candidate skills gap.

- **Lack of Diversity**: Even though the pipeline demonstrates some progress, the broader profession is not impacted.
Candidate Skills Gap

Many candidates, otherwise qualified, are turned away due to the absence of one or more of the following actuarial competencies

Actuarial Competencies*

1. Communication
2. Professional Values
3. Industry Knowledge
4. Leadership
5. Interpersonal Collaboration
6. Technical Skills and Problem Solving
7. Strategic Insight
8. Results-Oriented Solutions

Key Themes from Industry Recruiters

- Candidates are poor communicators, and struggle to explain technical concepts to non-technical stakeholders
- Candidates are technically qualified and have exams, but lack leadership experience
- Candidates have the technical skills, but lack a broader understanding of the industry to succeed

*Society of Actuaries Competency Framework
International Opportunities: Rewards & Challenges
POLLING QUESTION:

Choose Your Own Adventure! You are very interested in pursuing an international opportunity. Would you most like to learn about...

A. Getting an international job offer

B. How to successfully (and smoothly) move abroad
Getting an International Job Offer

Which First:
- Move or Job

Temporary or Permanent

Same or New Company

Negotiables and Non-Negotiables
Offer and Relocation Package

- Mobility Policy
- Visa Type
- Location
- Salary & Grade
- Housing
- Relocation Agent
- Health Insurance
- Family
- Expat Coaching

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Preparing for a Successful Move Abroad

BEFORE
- Relocation Agent
- Expat Groups Online
- New Colleagues
- Budgeting

AFTER
- Logistics
- Language
- Company Programs
- Actuarial Community

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Navigating New Work Environments

- Hofstede’s Cultural Dimensions
- Regulatory Philosophies
- Language Barriers
- Concept of Insurance
Navigating New Work Environments
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