

Broader Skills and Opportunities for Actuaries

SOA Anaheim Spring Meeting Presentation
May 19, 2004

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Agenda

- Mission and Strategic Plan of SOA
- Research/Survey Results
 - Member
 - Marketplace
- Board of Governors Decisions
 - Expanded Roles in Traditional Markets
 - New Opportunities in Broader Financial Services market
 - Image Building Campaign
- Future of actuarial profession - examples

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SOA Vision:

The vision of the SOA is for actuaries to be recognized as the leading professionals in the modeling and management of financial risk and contingent events.

=>SOA Strategic Plan helps direct SOA work towards the vision

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Strategic Planning Activity

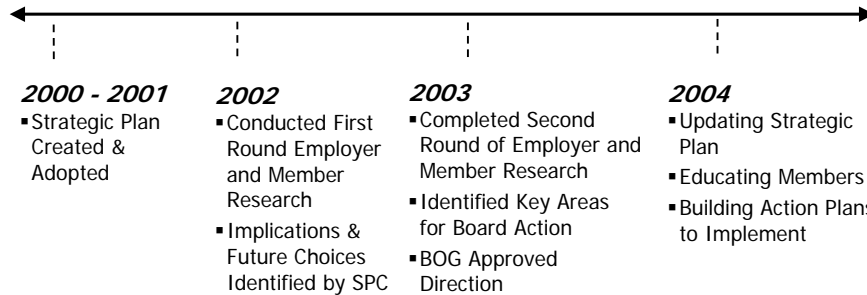
- Board formed Strategic Planning Committee (SPC) and established Strategic Plan in 2001
- SOA Strategic Plan:
 - governs board activity
 - sets strategic direction – consistency between presidencies
 - reviewed and updated at least every 3-4 years (currently being revised)

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SPC Activities: 2000 – Present



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HIGH LEVEL Questions – Addressed by BOG and SPC in 2003 and 2004

1. How do we expand in traditional markets? What roles are appropriate for actuaries in the future?
2. Do we enter Broader Financial Services?
3. How should the current value of the actuarial skill set and the actuary be enhanced?
 - Image
 - Skills
4. What, if any, other credential and/or education should SOA seek to offer? What skills need enhancement for future success?

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SOA FINDINGS:

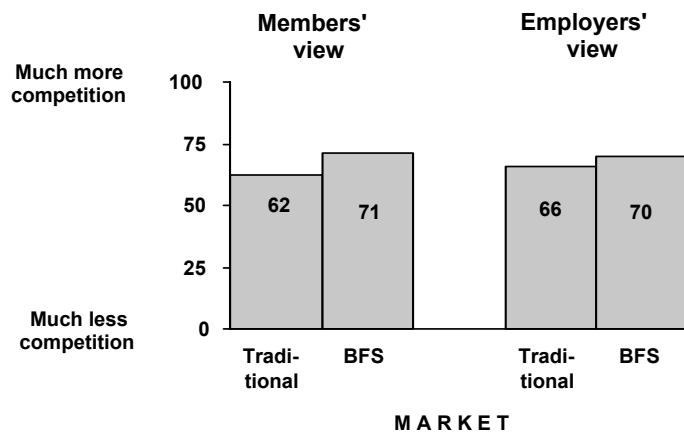
Missing Skills and Potential Opportunities –

Membership Survey
Market Survey (traditional and broader financial services (BFS) employers)

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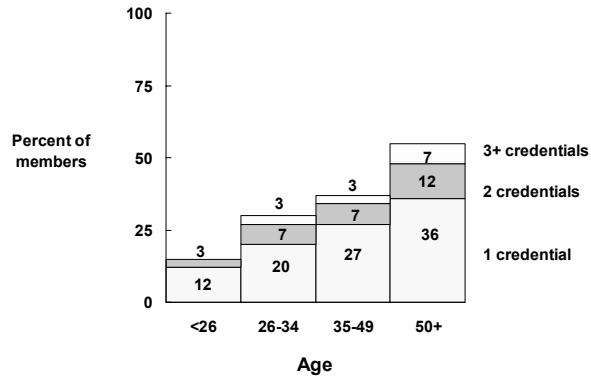
Do Actuaries Face More or Less Competition?



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Acquisition of non-actuarial credentials

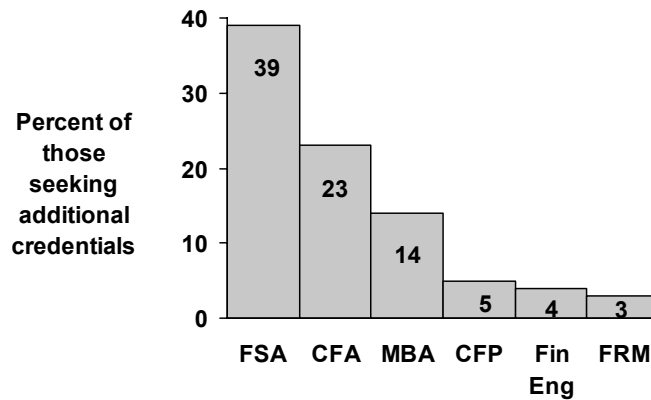


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Credentials that Members Pursue Today

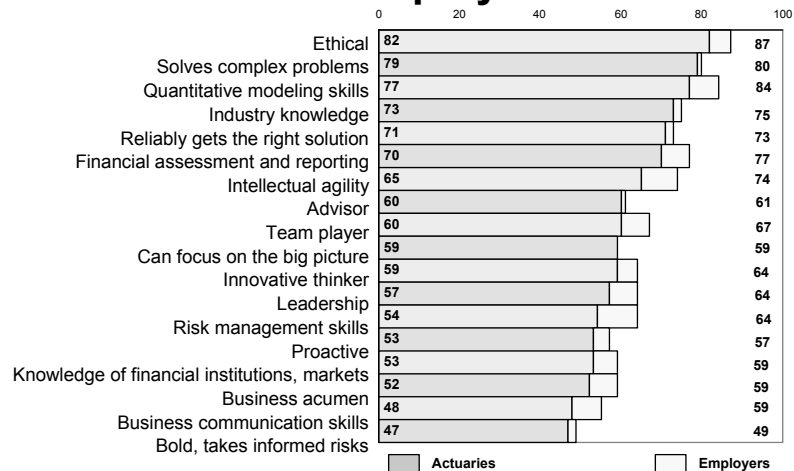


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Skill Performance Actuaries vs. all Employers

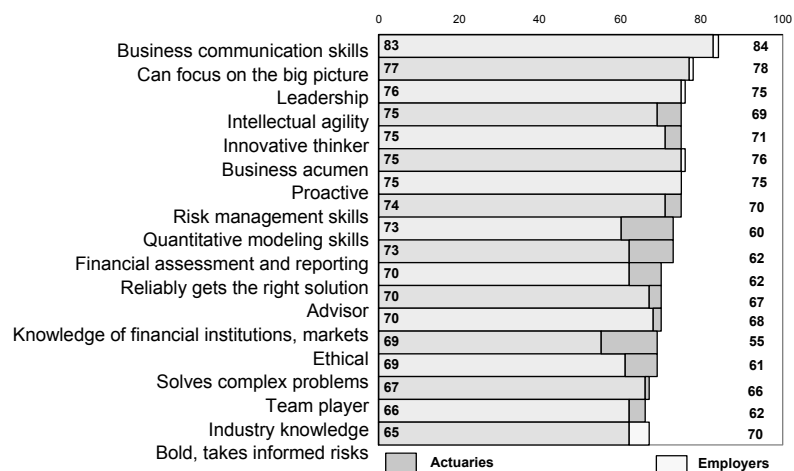


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Skill Importance of Improvement: Actuaries vs. Employers

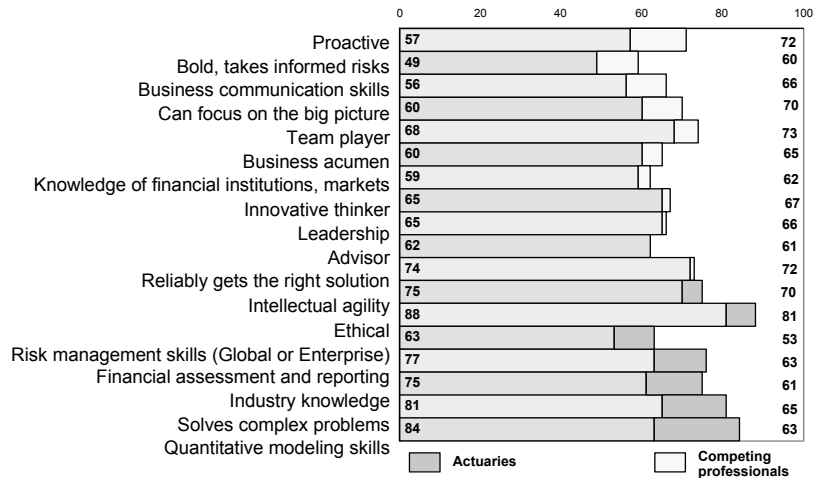


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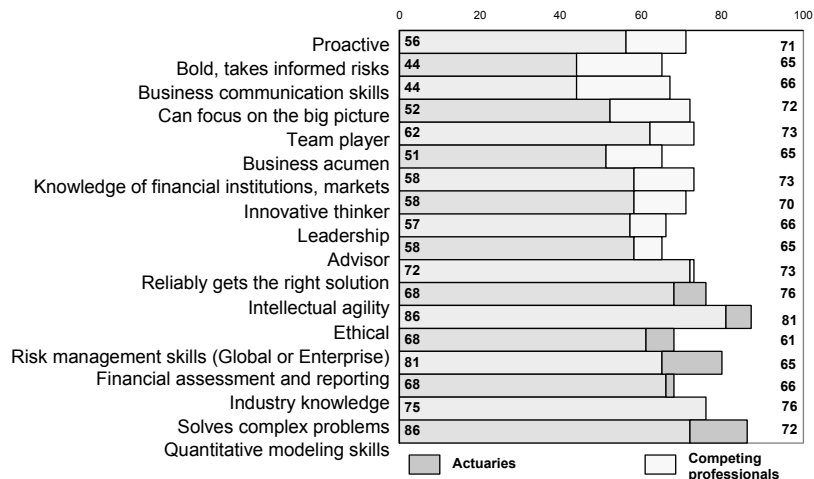
Traditional Employer Ratings of Performance: Actuaries vs. Competing Professionals



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BFS Employer Ratings of Performance: Actuaries vs. Competing Professionals



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Skills Findings: Current Performance of Actuaries

Employers' rating of Actuaries Skills	
Highest Performance Rating	<ul style="list-style-type: none"> ▪ Ethical ▪ Quantitative (Modeling) ▪ Solving Complex Problems ▪ Financial Assessment and Reporting
Lowest Performance Rating	<ul style="list-style-type: none"> ▪ Bold, Takes Informed Risks ▪ Business Communications Skills ▪ Proactive ▪ Can Focus on Big Picture ▪ Business Acumen

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Skills Findings: Current Performance of Competing Professionals

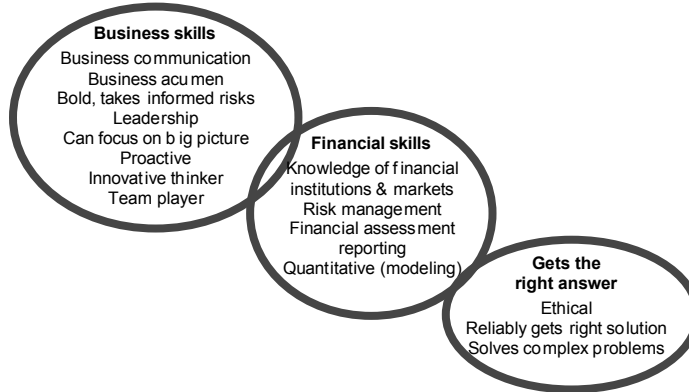
Employers' rating of Competing Professional	
Highest Performance Rating	<ul style="list-style-type: none"> ▪ Ethical ▪ Team Player ▪ Reliably Gets Right Solution ▪ Intellectual Agility ▪ Proactive
Lowest Performance Rating	<ul style="list-style-type: none"> ▪ Risk Management ▪ Industry Knowledge ▪ Bold, Takes Informed Risks ▪ Advisor

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Dimensions of the Image: Actuaries' View



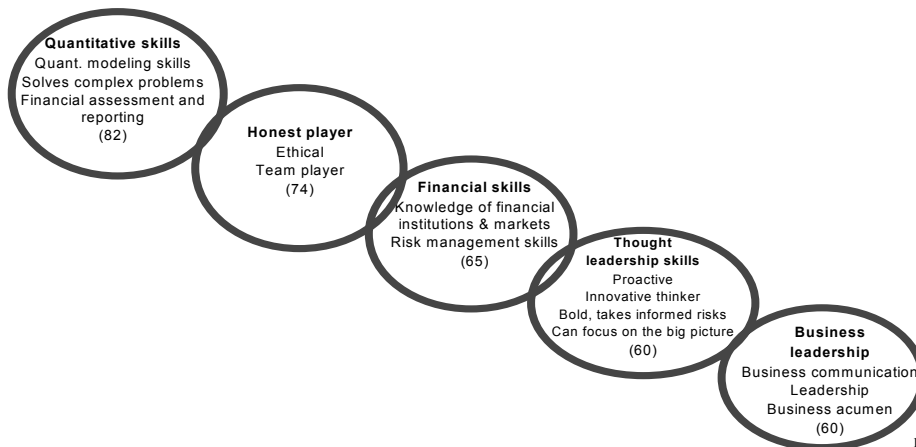
Performance	54	63	76
Need for Improvement	70	74	72

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Dimensions of the Image: Employers' View of Actuarial Performance



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Value of the Credential (Roles) Findings

Primary Responsibilities Typically Performed	Insurance	Reinsurance	Consulting	BFS
Product Develop. & Pricing	X	X	X	
Financial Valuation, Reporting, Planning & Analysis	X	X	X	X
Risk Mgmt.	X	X	X	X
Pension Plan Design, Funding & Acctng.			X	
Financial Advising				X
Asset/Fund Mgmt. & Investment				X

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Value of Credentials: Details

	Percent			
	Actuaries Hold	Actuaries Seek	Traditional Employers Consider	BFS Employers Consider
FSA	62	39	85	18
ASA	100	NA	64	8
Chartered Financial Analyst (CFA)	4	23	22	63
MBA	4	14	14	59
Accountant	1	2	15	18
Masters, Ph.D. in Mathematics	12	2	6	16
Financial Eng., Masters, Ph.D., Finance	1	4	2	33
Financial Risk Manager (FRM)	0.4	3	1	20

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Value of the Credential (Hiring) Finding

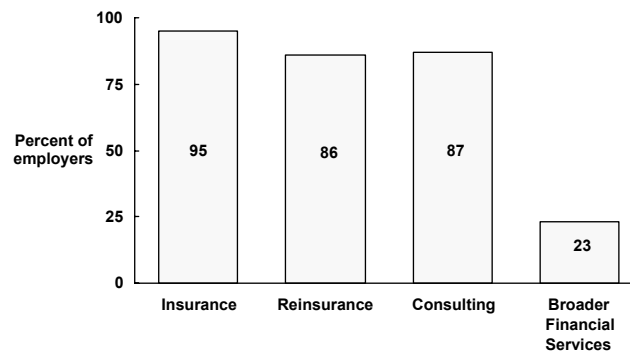
Credential used for hiring	Insurance	Reinsurance	Consulting	BFS
FSA	X	X	X	
ASA	X	X	X	
CFA	X	X	X	X
Financial Engineer				X
MBA			X	X
CPA		X		X
Higher degree in Mathematics	X	X	X	

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Employers Who Consider an SOA Credential When Hiring



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Skills Findings – Top Skills Required for Mid and Top Level Risk Management Positions

Risk Mgmt. skills viewed as important	Insurance		Reinsurance		Consulting		BFS	
	Mid Levels	Top Levels	Mid Levels	Top Levels	Mid Levels	Top Levels	Mid Levels	Top Levels
Market/Financial Risk Mgmt.	X		X	X	X	X	X	X
Suitable Knowledge of Industry	X	X	X	X	X	X	X	X
Strategic & Envir. Risk Mgmt.		X	X	X	X	X		X
Asset/Liability Mgmt.					X		X	
Operation-Specific Risk Mgmt.		X			X			
Credit Risk Mgmt.							X	

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Key Image Questions to be Answered by 2003 Research – What We Found

- Do members and employers share the same perception of actuarial skill sets?
YES
- Is the employers' perception of the actuarial profession driven by the set of current skills being credentialed? Or by the employers' level of knowledge about actuarial skill sets? **IT IS BOTH**

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Key Image Questions to be Answered by 2003 Research – What We Found

- Do we need a clearly defined identity for the profession? How should the actuarial image be changed or enhanced?

=> THERE IS A CLEARLY DEFINED EXISTING IDENTITY THAT IS VALUED FOR TECHNICAL SKILL.

=> THE IMAGE NEEDS TO BE ENHANCED ALONG THE DIMENSIONS OF:

- 1) Business leadership and business acumen
- 2) Knowledge of financial institutions, markets

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Key Traditional Markets Questions to be answered by 2003 Research – What We Found

1. How do we expand in traditional markets?
NEED TO ENHANCE CERTAIN SKILLS AND ADVANCE BUSINESS
LEADERSHIP OPPORTUNITIES; What roles are
appropriate for actuaries in the future? RISK
MANAGEMENT AND BUSINESS LEADERSHIP
2. What skills need enhancement for future
SUCCESS? RISK MANAGEMENT, BUSINESS SAVVY, FINANCIAL
MARKETS, LEADERSHIP

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**Key Broader Financial Services Questions
to be Answered by 2003 Research
– What We Found**

1. Do we enter Broader Financial Services?
YES
2. What, if any, other credential and/or
education should SOA seek to offer? **RISK
MANAGEMENT, BUSINESS SAVVY, FINANCIAL MARKETS**

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Resulting Decisions made by Board

1. Do we enter Broader Financial Services? **YES**
2. Should we expand in traditional markets? **YES**
3. How should the current value of the actuarial
skill set and the actuary be enhanced?
 - Image **BOTH**
 - Skills
4. What, if any, other credential and/or
education should SOA seek to offer **To be
explored**

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BOG Decisions:

(1) Develop an Image-Enhancing Program To:

- Re-brand and strengthen recognition of the actuarial profession
- Improve recognition of actuaries as thought leaders
- Expand awareness and relevance of actuaries in non-traditional markets
- Work in cooperation with other actuarial organizations world-wide to accomplish these goal

=> first step - CRO publicity campaign

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BOG Decisions

(2) Strengthen Position of Actuaries in Traditional Markets by:

- Enhancing the value actuaries provide (skills development)
 - Leadership and business skills
 - Thought leadership
 - Communication
- Enhancing credentials to incorporate skills that are evidenced as desirable in the marketplace (E&E Redesign – Risk mngt, asset knowledge)
- Examining additional means of acquiring these skills (CE, certificates, partnerships, etc)

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BOG Decisions

(3) Work to Create a Position for Actuaries in the BFS Market by:

- Enhancing current credentials to help actuaries expand into new roles and markets
- Evaluating potential new credentials or certificates to be offered
- Exploring partnerships with other organizations for development of skills and expansion of role

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Core Risk Management Skills Actuaries Already Possess:

- Calculus
- Statistics and Probability
- Interest theory
- Risk theory
- Contingencies valuation
- Economics and Finance (need some enhancement)
- Financial Economics (need some enhancement)

=> KEY: actuaries MUST be able to apply these skills holistically to BOTH sides of the balance sheet, AND to a broad spectrum of financial and risk management problems

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Industries Where Risk Management is Spreading or Will Spread

- Factors affecting the spread:
 - Extent of regulation
 - Company size
 - Complexity of business
 - Spectrum of risks undertaken
 - Customer base
 - Whether risk is a core competency
 - Whether have to explain your risk profile
- Industries:
 - Banking
 - Insurance
 - Asset Management Firms
 - Energy-related sector
 - Telecom
 - Government entities
 - Transportation
 - Health Care

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Broader Opportunities for Actuaries - all industries

- Chief Risk Officers and other leadership roles
- Market Risk Management
- Credit Risk Management
- Operational Risk Management
- Insurance/Underwriting Risk Management
- ALM
- Investment
- Long-term forecasting and strategic business planning
- Special event advisory (eg Sidney Olympics)

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Example: Energy Industry

- exploring for oil and gas reserves
 - trading of oil on international markets
 - marketing and retailing of petroleum products to consumers
 - supplying natural gas and power to wholesalers and consumers; providing energy from renewable sources such as wind and solar power and new sources such as hydrogen
- => Energy products and services include complex embedded options and other derivatives
- Potential actuarial involvement in these areas:
 - Assessment and modeling of demographic changes and energy demands internationally
 - Modeling and financial projections; feasibility studies
 - Assessing and pricing financing arrangements, valuation of contingencies and options
 - Risk management

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Example: Actuary in Energy Consulting

- **Listed by: QPL Limited
Sydney**
- **Actuarial Consultant - Energy Industry**
- Our client is a leading Actuarial Consultancy practice specialising in advice on financial risks and management solutions across a range of industries. As a consultant in the Energy and Utilities Practice your role will include:
 - Risk Consulting ,Modelling , Pricing Analysis
 - Valuations, including for complex derivative products.
 - You will also be building strong client relationships.
 - You will be working in a good team environment with excellent career and training opportunities.
 - The successful candidate may be a qualified actuary but could also be a graduate in statistics, mathematics or economics.
 - You will have strong modelling and quant skills. Electricity Industry experience is desirable but not essential. Please contact Justin on (02) 9262 1255.

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Questions???

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Dr. Catherine Konsky, Professor Emeritus of
Communication, Illinois State University,
and
Dr. Krzysztof Ostaszewski, FSA, Professor of
Mathematics, Actuarial Program Director,
Illinois State University

Assessing Communication
in the Work of Actuaries

Purpose of the project

- Communication skills of scientific professionals
 - How do actuaries perform?
- Stages of the project funded by AERF:
 - Focus groups,
 - Online survey,
 - Analysis and dissemination of results.

Focus Group Phase

- Focus group format: open, free-flowing discussion directed by questions by interviewers
- Two separate groups: actuaries and clients of actuaries (i.e., people working with actuaries)
- Series of questions concerning the nature, scope and effect of actuaries' communication

Composition of focus groups

- Voluntary participation of companies, mostly in the Midwest, but also on the East Coast.
- About ten companies, life, property/casualty and health.
- Approximately a dozen of participants in each focus group.
- Voluntary participation, we relied on companies to pick participants.

Key issues in questions: actuaries

- How much and what form of communication does your job require?
- What form of communication do you prefer and why?
- What gets in the way of effective communication?
- What was your communication education?
- What is the role of informing others and persuading others in your work?
- What is the role of nonverbal communication in your work?

Key questions: clients

- How much and what form of communication with actuaries does your job require?
- What form of communication with actuaries do you prefer and why?
- How comfortable are you in communicating with actuaries?
- Did your education have a communication component?
- How important is persuasion in your dealings with actuaries?
- How effective are you in dealing with nonverbal cues?

Patterns of answers

- Actuaries prefer e-mails and exchanges of files, but also value face to face communication.
- Clients nearly universally choose face to face conversation as the method of communication.
- Sending an Excel file in response to a question, or presenting the whole model is not appreciated.
- Expressing a mathematical model in common sense terms, even if grossly oversimplified, but catches the essence of the problem, is greatly appreciated. Clients value explanations they can understand.
- Clients do know actuaries' work is complicated, and appreciate that, but do not want to deal with those complications.

Patterns of answers

- Physical environment and location of actuaries often affect their communication preference.
- This is the case for communication with clients/coworkers but also with other actuaries.
- Some actuaries emphasize the importance of adapting their mode of communication to the situation.
- In preparing and delivering modeling solutions actuaries are challenged to meet the needs of various "publics" (clients, business, regulators).

Patterns of answers

- Actuaries and clients do a lot of communication on their job.
- More experienced actuaries perceived as better at communication.
- Both clients and actuaries tend to agree that actuaries are not proficient at sending and receiving nonverbal communication.
- Actuaries value relationships they develop with clients/coworkers. Clients/coworkers value those even more.
- The organizational culture affects communication.

Patterns of answers

- Three keys to success in actuarial work:
 - Technical: modeling,
 - Communication,
 - Speed of getting the work done.
- Nobody complains about actuaries doing bad technical work -- actuaries are victims of their own success! Actuaries are generally valued for their knowledge and modeling ability.
- This means that an actuary distinguishes himself/herself by speed and communication. There is less dispersion in speed, and more in communication among various actuaries.

Education

- Almost universally actuaries had no communication component or very little of it in their formal education.
- While they are not common, communication educational experiences often provided valuable experience to actuaries.
- Almost universally clients of actuaries had a relatively larger communication component in their education.
- Clients of actuaries often perceive those actuaries who communicate best to be the best actuaries.

Passing exams is important

- We should think about the proper place in actuarial development for:
 - Communication,
 - Business acumen,
 - Management.
- What is the place of an actuary in a firm:
 - Technical person, or
 - Key member of the management team?

Limitations of data from focus groups

- Limit on number of groups.
- Limit on number of companies represented.
- Limit on number of questions.
- Selection bias, due to voluntary nature of study.

Next stage of the project

- Online survey held on an Illinois State University server, approved by AERF.
- Addressed to both actuaries and clients of actuaries.
- Data will be analyzed.
- Combined results to be presented to both SOA and CAS, in meetings and in a paper, planned to be submitted to the NAAJ.