

Market
Opportunities
Research



Report to the Strategic Planning Committee on
Marketplace Interviews

- Skill Requirements
 - Gap Analysis
- Recommendations
for Next Steps



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Executive Summary

Most Important Strategic Implications from this Research

This Market Opportunities Research (MOR) Project builds upon the foundation created at the SOA Strategic Planning Retreat in November 2000. The momentum for the MOR came from the Strategic Plan, drafted at that retreat and approved by the Board of Governors in March 2001. The most important strategic implications from the MOR follow:

- A. Both the Retreat and the resulting Strategic Plan focus on the right issues: forces in the marketplace are changing both what customers need and the landscape of financial services. Actuaries and other business professionals with actuarial-like skills have key roles to play in managing the risk attendant to the strategic response to these changes.
- B. Employers in the marketplace do seek people with the quantitative skills. Indeed they want a few highly skilled quantitative analysts in every firm. However, they want the vast majority of risk analysis and risk problem-solving experts to have a slightly lesser degree of quantitative skill than an actuary, combined with broad creative business savvy. They want people who can see what issues really matter, apply their analytical abilities to those strategic issues, and then devise creative solutions – and most critically – explain the solutions concisely and clearly to executives and customers.
- C. The challenge for the SOA and the actuarial profession is that employers, even traditional employers of actuaries, perceive that very few actuaries have both the quantitative skill and the business savvy to analyze situations, and then create common sense strategic solutions that are easily communicated to all target audiences.
- D. The SOA's Strategic Plan takes the Society and the profession down the right pathways: without eroding the esteem of the ASA or FSA. The SOA should attune the skills behind these credentials to better parallel the needs of the marketplace. To build upon and compliment the historical reputation of its members, the SOA should offer a new credential, a kind of hybrid of an ASA, and MBA and a CFA. The SOA should offer this new credential, as outlined in the Retreat discussion and pursued in the Strategic Plan. It should do this because this approach will do more in a shorter time than anything else to significantly change the market's perception of actuaries, who they are, and what they can do.

Key Findings: Market Forces and Trends

The data gathered from multiple methods and sources include these conclusions about markets:

1. Market and societal forces have been driving change, and will continue to drive change, to the business strategies in financial services. Chief among these forces are demography, technology (both information and biomedical), regulatory changes, and market globalization.
2. The most significant strategic responses to these drivers will involve the design of product bundles across traditional financial services lines of business. These bundles will be tailored and even customized to the needs of individual consumers, then marketed, sold and serviced through both high tech and high touch distribution channels.

Key Findings: Skills the Market Desires

3. When employers hire people to help assess, anticipate, and manage business risk, both the traditional and broader financial services market employers put the most importance on these skill sets:
 - Quantitative Analysis
 - Assess & Manage Risk
 - Creative Business Savvy (See Appendix F for a description of these skills.)
4. The level of quantitative skills that the traditional and broader financial services markets desire is about the same. It includes the calculus; multivariate statistics based on the general linear model and the calculus; plus skillful multivariate modeling, but not to the level of calculus based statistical modeling. (See Appendix E – The Skill Sets Gradients for more details.)
5. Practice Areas within the traditional employment marketplace desire different levels of specific skills (Quantitative, Accounting, Financial Institutions & Markets, Economics, and Assess & Manage Risk) depending upon the nature of their work. (See Appendix – E and the Additional Charts provided at the end of the main body of the report.)
6. Among the Creative Business Savvy skills, the two most important skill sets are:
 - Business Communication – succinctly, persuasively, and clearly communicate business analyses and recommended solutions/innovations to customers and senior management/boards of directors.
 - Business Acumen – broad-based knowledge and ability to apply business disciplines, used to grasp the whole of a problem or situation and develop creative, implementable solutions.

Summary of Recommended Next Steps

At a strategic level, the SOA should strongly consider these actions:

- A. **Align the education and qualifications requirements to more closely match the marketplace’s desires.**
- B. **Offer at least one new credential, focusing on the skill sets desired by the Broader Financial Service Markets (banks, “The Street,” and financial consulting firms), and openly explore doing that jointly as a strategic partner with one or two other professional organizations (AMIR, AICPA, IAFE...).**

This credential could provide expanded employment opportunities in traditional markets, as more companies expand from traditional insurance products to a broader array of bundled investment products and financial services. Such a credential will position actuaries as optimal candidates for this work.

- C. **Work swiftly and diligently to change the perception of actuaries as one-dimensional insurance-sector professionals. This would be accomplished on two fronts.**

- 1) Impart the creative business savvy skill set to all members and students through the deployment of targeted innovations in the continuing education offered by SOA, as well as other strategic and tactical means outlined in the Strategic Plan.

2) Educate members and students, as well as employers and prospective employers, about the actions being taken to equip all actuaries with additional competencies. This education should be delivered through multiple communication channels.

- D. Create a better feedback loop to improve alignment of education and qualifications requirements leading to SOA credentials with the skill sets employers need, in both the traditional and broader financial services marketplaces.** This feedback loop should employ a multi-method, multi-source approach to gathering feedback from business leaders whose firms employ actuaries and other kinds of risk analysis and management professionals. These business leaders should represent both:
- a) Those that manage actuarial and risk management functions; and,
 - b) Those that rely upon the outputs from those functions to establish business strategy and implement business solutions.

The remainder of this report provides the detail behind the Executive Summary.

Report on Marketplace Interviews for the SOA Strategic Planning Committee

The sections in this report appear in order of their importance for strategic thinking, rather than the classic research report sequence of method-findings-conclusions. The first section discusses the impact of the research on the Society's strategic planning and targeted strategic goals. Following that section is an outline of the methodology (detailed in Appendix G – Background and Methodology), and the specific findings from the research.

Impact on the SOA's Strategy

The SOA Strategic Plan, approved in March 2001 by the Board of Governors, began at a Strategic Planning Retreat in November 2000. Both the Retreat and the Strategic Plan identified these phenomena:

- ❖ Forces in the global economy and the financial services marketplace have created trends, which will continue into the foreseeable future.
- ❖ The business risks for both financial services firms and their customers are changing as well.
- ❖ Strategic responses from firms in the financial services sector are creating significant changes in financial services firms, their products, and their need for skilled professionals to analyze, anticipate and manage business risk.
- ❖ The SOA needs to take several well-defined strategic steps to respond to these changes and to position the SOA and the profession to thrive in the changing future.

Recommended Updates to Strategic Plan

At the highest strategic level the results of the MOR support continuing with perhaps even more vigor, the implementation of the Strategic Plan as approved in March 2001.

Value Propositions

The market-and member focused strategies also set as an outcome target/goal that the: “Value propositions [stated in the Strategic Plan] are validated”. The current SOA Strategic Plan states (in part) the following Value Proposition for employers:

Current Employer Value Proposition

“In exchange for paying members’ dues and fees and granting employees’ time to volunteer for Society activities, current employers will receive the following value:

- Steady supply of students striving to be actuaries who perform value-added work as they begin to learn actuarial skill sets.
- Advanced students with core skill sets who add more value to the employer as they continue to develop and learn.
- Qualified actuaries with recognized credentials who continue to provide value as core businesses are diversified and expanded.”

Market- and Member-Focus

The reader will follow these next sections more easily with a copy of the SOA Board of Governor’s Strategy House available for visual reference. (See Appendix J.)

The results of the MOR support three recommendations that appear below in priority order based both upon the urgency with which they should be pursued and the impact they will have on the SOA, its members and the profession.

The Key Findings, later in this report support these recommendations, showing the data on skill sets desired by employers in the marketplace. It compares skill set requirements across segments of the traditional market (life, health, retirement, and finance) and the broader financial services market (banking, investment banking, mutual funds, financial consulting, and brokerages). It also reveals the strong similarities across the two markets overall. In addition, it also discuss in detail the marketplace’s near universal desire for professionals to analyze, anticipate and manage risk who bring to the task both quantitative skill and a creative business savvy.

Education and Marketing

The chain of strategic action that flows within the SOA Strategy House from strategy 11 to 10, 9, 12, and 1A & 1B, defines a number of targeted outcomes. The SOA measures and responds to member and employer needs. As a result, the SOA programs will satisfy members and employers so well that participation in SOA programs increases.

- 1. Align the education and qualifications requirements to more closely match the marketplace’s desires.** The two key gaps have already been emphasized: creative business savvy skills are essential, and somewhat less rigorous quantitative skills will suffice to meet employers’ needs.
- 2. Work swiftly and diligently to change the perception of actuaries as one-dimensional insurance-sector professionals. This would be accomplished on two fronts.**

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- a) Impart the creative business savvy skill set to all members and students through the deployment of targeted innovations in the continuing education offered by SOA, as well as other strategic and tactical means outlined in the Strategic Plan.
- b) Educate members and students, as well as employers and prospective employers, about the resolution for such an additional competency and the actions being taken to equip all actuaries with it. This education should be delivered through multiple communication channels.

The foregoing could have been included below, under the heading “Broader, Deeper, Stronger” Strategies, because it will support that strategic thrust as well.

- 3. Create a improved feedback loop to better align education and qualifications requirements leading to SOA credentials with the skill sets employers need, in both the traditional and broader financial services marketplaces.** This recommended feedback loop would employ a multi-method, multi-source approach to gathering feedback intelligence from business leaders whose firms employ actuaries and other kinds of risk analysis and management professionals. These business leaders should represent both a) those that manage actuarial and risk management functions, and b) those that rely upon the outputs from those functions to establish business strategy and implement business solutions.

Potential Benefits of Implementing these Recommendations – Should the SOA choose to implement the above recommendations, several benefits are likely to occur.

- Member satisfaction should increase, as members see their basic and continuing education applicable on the job, in more ways.
- Employers’ satisfaction will improve, as members’ capability to recommend more savvy business solutions – and explain them to executives and customers – adds more value.
- The SOA will be in a better position to anticipate what members and employers need, rather than reacting to feedback after the programs are already on line.

Potential Consequences of Ignoring these Recommendations – In general, members and employers will spend their time and other resources where they can get the most value. That may mean they choose to spend their resources with other vendors than the SOA.

- Employers may continue to perceive that the SOA does not attend to their needs as well as they would like; seeking their feedback would send the better message that the SOA is listening.
- The recent Member Satisfaction Survey is one step to identify the potential for improvement in delivery value. A similar feedback loop for employers will provide similar hard information, without which the SOA operates based upon limited input.
- Perhaps the biggest consequence of ignoring these results is that the employment marketplace will continue to perceive actuaries just as they do now, and employment opportunities that could go to SOA members, current and potential, will go to people with other kinds of educational backgrounds and credentials.

4. The MOR results support amending the potential employer value proposition to reflect these same concepts and to explicitly state that it targets the broader financial services marketplace – and others as yet unexplored but nonetheless potentially fertile for actuaries.

- Expand the concept of “employer” to include the broader financial services industry; change the mindset that the value proposition aims exclusively or primarily at the traditional employment market.
- The syllabi and E&E process will align to the skill sets and levels of skill employers require, both at present and as they are “diversified and expanded.” This alignment will include creative business savvy.
- The level of skill included in the E&E process will take into account differences required by the nature of the work in different Practice Areas, to the extent practicable.
- Continuing education will keep members in different Practice Areas attuned to changes in their fields after they are admitted as members of the Society.
- The SOA will systematically survey the marketplace to determine employers’ needs in terms of the skills they require of professionals who assess, anticipate, and manage business risk.

“Broader, Deeper and Stronger” Strategies

The flow of strategies along the chain beginning with the Knowledge Management Theme in strategies 2 and 6, and flowing through 5A & 5B, to 4 and 7 lead to the following strategic outcome:

- That the actuarial profession is larger.
- Applies its skills in new ways and in more places.
- It services both older and newer industries and sectors.
- That is, the profession is broader, deeper, and stronger.

The findings from the MOR support the need for striving to achieve this outcome, and suggest a specific approach to achieving it.

5. **Offer at least one new credential, focused on the skill sets desired by the Broader Financial Service Market** (banks, “The Street,” and financial consulting firms), and openly explore doing that jointly as a strategic partner with one or two other professional organizations (AMIR, AICPA, IAFE...). This new credential would resemble the current ASA, with additional expertise in two primary skill sets: Financial Institutions and Markets; and Assessment and Management of Business Risk.

Such a credential would also provide employment opportunities in the traditional market, as more companies expand from traditional insurance products to a broader array of investment products and financial services. The skill sets and levels of expertise behind this credential would resemble a hybrid of an ASA, the core curriculum for the MBA at top business schools, and either a CFA or a financial engineering credential.

In terms of the Skill Set Gradients (see Appendix E) this new credential has the following profile:

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Quantitative – Level 6: Adept with multivariate statistical methods from the general linear model, skilled with the calculus and differential equations, yet not at the expert level of skill with calculus based statistical modeling techniques.

Accounting – Level 5: Expertly analyzes financial statements, performs asset valuations and liability analysis.

Financial Institutions, Markets – Level 6: Creates pricing models for new securities issues (which presumes level 5, analyzes assets and liabilities and recommends A/L management strategy and tactics).

Economics – Level 5: Explains global trade dynamics, monetary policies (which presumes level 4, interprets national, regional and global macroeconomic indicators).

Assessment & Management of Business Risk – between Levels 6 and 7: Analyzes enterprise risks and forecasts exposures; and (Level 7) designs enterprise financial and other kinds of risk management strategy and tactics.

Creative Business Savvy – See Appendix F: Excellent business communications skills, both one-on-one and when making persuasive business presentations, and broadly based business acumen, across business disciplines applied to finding systemic, practical solutions to business problems.

Potential Benefits of Implementing these Recommendations

- Such a credential would afford employment opportunities across the financial services industry, because it would align to both the traditional and broader markets' needs for professionals with the strong combination of quantitative capabilities, broad business knowledge, financial expertise, and creative business savvy.
- Therefore, such a new credential would expand SOA membership, the profession, and the spectrum of places where actuaries add value, for their employers, the economy and the public.

Potential Consequences of Ignoring these Recommendations

- The traditional employment market for the traditionally educated and qualified actuary will at best remain stable.
- Mergers and consolidations support the prediction that it is more likely to shrink.
- As a profession, actuaries continue to play the same role, and enjoy the same perception among business leaders, as they have for the past 15 or 20 decades.

What Else Does the Data Tell Us That the SOA Can Put to Use?

The SOA and LSG team will submit a separate, more detailed set of data analyses and recommendations for the use by the Education Working Groups. For the purpose of this report to the Strategic Planning Committee, the team submits the following:

Management System: Balanced Scorecard Implications from the Market Research

The SOA should consider business metrics, at either the Board-Level Scorecard or the operational/management level that track the following:

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- Increase/changes in numbers of members employed in the broader financial services industry
- Supply and demand curves for actuarial positions, by market and by segment
- Speed to implement the strategies in the Plan in both the organizational effectiveness and knowledge management themes; tracking progress against timelines to implement the strategies with a high sense of urgency
- Overall Employer Satisfaction, based upon a survey not unlike the Member Satisfaction Survey just completed

Questions for Consideration

The following are submitted for the Strategic Planning Committee's consideration.

Exams

The SOA E&E Committee and the appointed Task Forces should consider the data from this MOR as they deliberate changes to the syllabi and the creation of new credentials. A separate report will address these issues specifically. However, the data here do support the work already completed that led to the creation of these Education Working Groups in 2001 and before.

As it considers the advantages and benefits of offering one or more new credentials, as recommended previously, there are several potential advantages and benefits to a joint credentialing effort. First, a strategic partnership would help with the critical effort to change marketplace perceptions of who actuaries are, what they are like as people, and what they can do in non-traditional businesses. Second, it would distribute the cost and deployment of staff resources. Third, it would combine existing expertise among staff and volunteers with other organizations, which when leveraged with the SOA's expertise would create a formidable combination. Fourth, it would preempt competition, replacing it with collaboration. And finally, it would attract attention among business leaders and the business press, providing highly desirable publicity.

Candidate organizations include:

- The Association for Investment Management and Research (AMIR; one source of the CFA credential)
- The Global Association of Risk Professionals (GARP, the Financial Risk Management, or FRM, credential)
- The International Association of Financial Engineers (IAFE; currently developing a credential for certifying financial engineers)
- The American Institute of Certified Public Accountants (CPA members recently defeated a proposal to offer a new, more strategic credential).

Estimated Size of Marketplace Demand

The MOR, to date, has focused on qualitative data collection; more quantitative data would be required to provide more precise estimates of the size of the broader financial services employment market than the following estimates. These estimates are listed, in order of magnitude, for both current FSA and ASA, plus the new broader financial services market

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credential outlined above. The following are thought to be reasonable estimates for the reasons outlined:

Mutual Fund Companies – between 1,000 and 5,000 positions based upon the fact that there are hundreds of such companies, large and small, and that there are approximately four times as many mutual funds on the market as there are equity issues listed on all three major exchanges combined. Mutual funds are an important tool in mass product customization. Moreover, main street and institutional investors alike evaluate mutual funds by comparing their performance to one or two market indices, which leads fund managers to rely heavily upon quantitative analysis and risk positioning. Both traditional and broader financial services market firms are in, and expanding into, this business, including many life companies expanding their financial consulting and investment advisory positions.

Financial Consulting Firms – more than 1,000, but probably less than 5,000 positions, based not only upon the concentration of business in a few larger firms (S&P, Accenture, Moody's, and the big accountancies), but also considering the plethora of small- to medium-sized firms who provide "boutique" or market niche services (e.g. Polysystems, Townsend and Schupp, Serota and Associates).

Wall Street: investment banking and brokerages combined – potentially up to 1,000 positions beyond their mutual fund businesses, based upon the combination of their investment banking, product development, trading, analysis, and financial advisory services.

Commercial banking – fewer than a thousand positions, based upon the fact that the top 20 commercial banks (out of more than 8,400 chartered commercial banks) in the United States have more than 80% of the assets of all commercial banks on their balance sheets. The same is true in Canada, where a literal handful of commercial banks control virtually all of the commercial banking market. This creates a small potential employment marketplace within the banks, although a somewhat larger potential market for employment in firms that provide risk-consulting services to banks.

CE Approaches vs. Other Professional Education

The SOA should focus energy and resources on providing Creative Business Savvy skills to its current members and students. Changing the perception of actuaries in the marketplace, at least in part, depends upon achieving that goal.

Some of this Continuing Education is available for purchase on the open market from training companies and through university executive education programs. Some is deliverable via the Internet, but in some content areas live facilitation will more effectively improve skills.

However, most significantly, the SOA should consider enhancing Creative Business Savvy skills with a complex, comprehensive business simulation. Much more than a case study, a simulation involves teams of participants competing to find solutions for a business trying to operate "on a burning platform." The design of the simulation should require all six of the skill sets, but ultimately focus on the participant teams' abilities to find a solution, rationalize the solution in terms of risk management, present their recommendations to simulated executive team or board of directors, and then implement the simulated solution to learn from the consequences of their decisions.

Emerging Issues

Several interviewees in the broader financial services market mentioned an emerging issue in risk management, referred to variously as “corelational” or “contagion,” risk. The risk arises when forces that generate two or more kinds of seemingly unrelated risks combine to create consequences that managing the risks independently will not prevent. This kind of synergy of risks, while not a new scientific concept, will draw more and more attention in the coming years. Contagion risk and behavioral economics will often appear together in presentations, publications, and speeches.

As financial services firms strive to create new, hybrid product bundles, and capitalize those in the global markets, analyzing, managing and especially anticipating these synergic combinations of risks will create new opportunities to apply techniques familiar to actuaries. As one investment banker said, “I need to spend a lot more of my time anticipating the next capital market instrument or product, and the one after that. And both will happen by the end of next month.”

While terrorism is a focus everywhere, the broader financial services market seems much more concerned about developing risk management strategies to position against it than the insurance industry. Insurers can use many old methods: exclusions, limitations, re-insurance. However, the terrorism peril is adding new amplitude to the volatility in the global equities and commodities markets. Therefore, actuaries migrating to the broader financial services market can add value by applying their quantitative and creative business savvy skills to helping position firms to weather the impacts of terrorist incidents.

Recommendations and Closing Summary

The SOA will continue to exist; in order to thrive, the organization must generate a much stronger sense of urgency about implementing its new Strategic Plan, new credentials, new CE and E&E approaches. In specific, the SOA should focus on the strategies that help make its members and their credential responsive to the traditional marketplace and appealing to employers because they can address risk analysis, anticipation, and management problems in the broader financial services sector as well.

Ultimately, the SOA and the profession will have to change the business community’s perception of actuaries. That effort will require a long-term commitment, deploying every means at the SOA disposal, and a tenacious, pervasive focus. This effort should prove key in preserving the stature of the ASA and the FSA, while expanding the applications of actuarial skills and the size of the profession.

In terms of expanding the profession and the employment market for actuarial members, a strong case can be made for the following assertion: Change the perception and anything is possible; leave the perception as it is, nothing else the profession does will have much impact.

MOR Results: **Overview of Background and Methodology**

For a more detailed discussion of the Background and Methodology of the MOR, please consult Appendix G.

At the outset of this project, LSG recommended that the SOA focus its MOR efforts in the financial services sector, dividing the sector into two markets: the traditional employment

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market for actuaries (life, health, finance and retirement) and the broader financial services market beyond the traditional market (banking, investment banking, brokerages, mutual funds, and financial consulting firms).

The MOR emphasized these kinds of issues:

- What kinds of risks are financial services firms focused on managing? What societal and market forces are driving those risks? What business problems do those risks create?
- What do employers in the traditional and broader financial services markets need in terms of skill sets in those employees they rely upon to assess, anticipate and manage business risk?
- What gaps exist between the SOA members' skill sets and what the markets need? How should the SOA align its traditional FSA and ASA credential requirements and qualifications to the markets' needs?

Using multi-method, multi-source approaches a team of SOA volunteers and staff and consultants from Leading Solutions Group:

- Interviewed 13 SOA leaders and academics, using prescribed protocols (fall of 2001)
- Interviewed 54 business leaders, 29 in the traditional actuarial employment marketplace and 25 in the broader financial services market, again using prepared protocols
- Researched and reviewed secondary sources of information
- Aligned with the new Task Forces the Board created from the work of the Task Force on the Actuary of 2005
- Created ten-gradient scales for each of five key skill sets identified through the previous steps.
- Developed descriptions of skill sub-sets to depict the amorphous skill set called "creative business savvy"
- Compiled, summarized, and analyzed the data from all of the above steps to generate this report.
- Planned a report for later delivery to the Education and Examinations Committee and related Task Forces with further details and analysis for their consideration.

Key Findings

What is Changing, and What's Driving the Change

This section lists the forces driving change in the order SOA leaders; academics and secondary market research sources perceive they will impact the financial services market. The collective impact of these forces appears in the list immediately after the list of forces. Then there follows a list of the strategic responses from the financial services sector to this changing marketplace.

Marketplace Forces

Presented here in order of relative significance, based upon the degree of impact the forces will have:

1. **Demographic Trends** – In order of importance: immigration to North America, ageing of the Baby Boom Generation, and migration toward the southern and western US and western Canada.
2. **Biological and Medical/Pharmaceutical Revolution** – Several learned interviewees and research reports (see Appendix C) predict order of magnitude advances in biotechnology, medicine and pharmacology. Work in areas such as the human genome project, high-tech diagnostics, genetic engineering, and designer drugs will change the face of diagnosis and treatment, especially predicting illnesses. People will demand the benefits of these advances, which will come with quantum leaps in cost.
3. **Electronic Technology** – Interviewees cited the speed and power of computation and telecommunication. This technological power will allow access to ever increasing volumes of information/data as a major trend in financial services. Both the corporation and its customers will leverage this power.
4. **Market Volatility** – Wide ranging fluctuations in the major market indices and sector indices began occurring in the early and mid-1990's, and have accelerated in terms of both amplitude and frequency since.
5. **Regulatory Changes** – Great impacts have occurred with the state and federal deregulation of banking and financial services in general. However, of potentially equal or greater importance are efforts to increase confidence for investors and customers of FSI products and services in a highly volatile securities market environment. The watchwords are not only "deregulate" and "globalize," but also "disclosure," "transparency," and "ethics."
6. **Globalization** – Two phenomena: First, more and more corporations do business in many global regions. Second, the world's capital market is so interconnected and interdependent that it behaves almost like a single market entity.

Collective Impacts of the Forces

Presented here in no particular order, because they will interact with one another and collectively effect overall financial services business strategy:

Mergers and Acquisitions – Of two types:

- Consolidations within industry lines of business
- Convergence, mergers across lines of business

Customer Intimacy – Companies will pay more attention to customers, their needs, and the value they provide for the premiums and fees they charge. Consumers, in short, will demand both "high tech and high touch."

Product Development – New versions of classic products and especially new admixtures and hybrids of financial services product will emerge.

Cost Focus – Financial services companies will have to continue striving for reduced operating costs whenever and wherever possible.

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Distribution Channel Diversification – More financial services companies will use more diverse distribution channels than ever before.

Politics and Public Policy – Financial services firms, who have traditionally engaged in public education and lobbying efforts directly and through industry trade groups, will expand both the size and scope of their efforts to influence public opinion and public policy.

Key Strategic Responses

Financial services firms, across the traditional product lines, will respond, or continue to respond, with the following strategies:

- ❖ Develop or acquire more distribution channels. Those who **had the products** dominated in the past; those who **can distribute the products** will thrive in the future.
- ❖ Earn and maintain customer trust on two fronts: 1) integrity of reporting, disclosing, and recommending, and 2) expertise in giving sound, comprehensive advice about how to achieve the **customers'** goals in highly uncertain markets and volatile geopolitics.
- ❖ Mass product customization – provide each customer with modular combinations of insurance, investment and financial services bundled by a trusted, high-touch advisor.
- ❖ In order to have products to bundle, firms will either a) expand into more product lines or b) decide to become a niche player and dominate a particular product line in specific market segments. Larger firms will do the former, smaller firms more often the latter.
- ❖ Provide information access on three fronts: “talk, brick and click.” Access to customer service and account information on the phone; agents, branches or both; and on-line.
- ❖ Cut cost, every way feasible, anytime it is possible without eroding customer satisfaction.
- ❖ Embrace deregulation of financial services to enable the above strategies; resist regulations that increase reporting complexity and therefore cost; and attempt to influence regulation that addresses globalization of the capital markets.
- ❖ Position themselves as solid trustworthy institutions, either because they are large, because they have a sterling reputation, or both.

Key Findings about Skill Sets

Refer here to Chart 1 – Skill Set Gradient Mean Responses.

1. The traditional and broader financial services market employers look for very similar levels of skill in the five skill areas rated on the ten-point gradient scales. (See Appendix E for the Skill Set Gradients.)
 - A. Quantitative — Skilled in multivariate statistics and applying the calculus, but not to the level of applying calculus-based statistical modeling.
 - B. Accounting – Interpret and analyze financial statements; performs asset valuations.
 - C. Financial Institutions and Markets – Can analyze risk and price new issues.
 - D. Economics – Interprets economic indicators, explains global trade dynamics and monetary policy.

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E. Assessment and Management of Business Risk – Analyzes enterprise risks, forecasts exposures, and can design financial and other kinds of risk management strategies.

Some interesting patterns that the data do not explicitly reveal, but which emerged from the experiences of the interviewers:

- Interviewees in all markets looked at the Quantitative skill sets gradients and a clear majority made the comment that they do need, “a couple of people up at the 8 or 9 levels,” in their organization, but only one or two.
 - Many of the interviewees seek “technical” or “technology” skills. Probing revealed that they want people adept with desktop computers, finding data on the Internet, and manipulating huge databases to extract statistical findings.
2. There are some differences in the skill levels desired across Practice Areas within the traditional market, largely reflecting the differing nature of the challenges each PA faces. (See Chart 2, Skill Set Gradients by PA in traditional market, in the Additional Charts Section, later in this document.)
 3. Similarly, there are some differences in the skill levels desired across segments of the broader financial services market. (See Chart 3, Skill Set Gradient Ratings by broader financial services market Segment, in the Additional Charts Section, later in this document.)

The interviewees rated all six skill sets, including Creative Business Savvy, in terms of **relative** importance. Given a list of all six, they picked the two most important and the two least important. This chart depicts their response patterns.

Virtually all of the interviewees reviewed the list, and then commented immediately that all six skill sets are vital to their businesses. Consequently, many struggled with this exercise, saying that choosing the most and least important among the skill sets was a genuine dilemma, because they see them all as highly important. (A value of 3 was assigned to a skill set chosen as most important; 1 to a choice of least important, and a value of 2 to the remaining choices.)

Refer here to Chart 5 – Relative Importance of Skill Sets Overall

4. Both the traditional and broader financial services markets place the most relative importance on these skill sets when hiring people to help assess, anticipate, and manage business risk:
 - Quantitative
 - Assess & Manage Risk
 - Creative Business Savvy (See Appendix F for detailed description.)
5. Among the Creative Business Savvy skills, the two most important skill sets are:
 - Business Communication – succinctly, persuasively, and clearly communicate business analyses and recommended solutions/innovations to customers and senior management/boards of directors.
 - Business Acumen – broad-based knowledge and ability of business disciplines, used to grasp the whole of a problem or situation and develop creative, implementable solutions.

Refer here to Chart 8 – Relative Importance of Business Savvy Skill Sets

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Differences among segments in both markets also emerged in terms of the importance of these Business Savvy Skill sets. (See Chart 7, Relative Importance of Business Savvy Skill Sets in Broader Financial Services Market, and Chart 9, Relative Importance of Business Savvy Skill Sets by Practice Area in the traditional market.)

6. Both traditional market employers, all of who are actuaries, and broader financial services market interviewees universally continue to harbor the same perceptions of actuaries that have persisted for decades, perhaps centuries. Actuaries:
 - Demonstrate extraordinary intelligence and analytical thinking skills
 - Perform statistical magic, almost legerdemain with data, providing elegant analyses and solutions to quantitative problems
 - Usually fail at trying to translate those elegant, sophisticated solutions into either understandable presentations or practical solutions
 - Generally lack the Creative Business Savvy skills today's employers rate equally important to quantitative and risk management skills
 - Demonstrate a deep understanding of one business discipline, risk management and insurance, but a limited knowledge and ability when asked to apply their expertise in broader business disciplines.

Description of Charts

Chart 1 – Skill Set Gradient Mean Responses for Traditional and Broader Financial Services Market.

Chart 2 – Skill Set Gradient Means by Practice Area in the Traditional Market.

Chart 3 – Skill Set Gradient Means by Broader Financial Services Market Segment

Chart 4 – Skill Set Gradient Comparison Marketplace vs. Credentials

Chart 5 – Relative Importance of Skill Sets Overall

Chart 6 – Relative Importance of Skill Sets by Practice Area in the Traditional Market

Chart 7 – Relative Importance of Business Savvy Skill Sets in Broader Financial Services Market Segments

Chart 8 – Relative Importance of Business Savvy Skills

Chart 9 – Relative Importance of Business Savvy Skill Sets by PA in the Traditional Market

Chart 10 -- Relative Importance of Business Savvy Skill Sets by Broader Market Segment

Appendices

- A. Relevant Strategic Initiatives from the SOA 2001 Strategic Plan
- B. List of Firms Interviewed By Market Segment
- C. Secondary Market Research sources, internal SOA documents, and web sites
- D. Marketplace Employers Interview Protocol
- E. Skill Set Gradient Definitions
- F. Business Savvy Skill Set Definitions
- G. Background and Methodology
- H. Market Opportunities Research Project Deliverables
- I. Tabulated Interviewee Counts by Market and Segment
- J. SOA Board of Governors Strategy House

**Appendix A – Relevant Strategic Initiatives from the
SOA 2001 Strategic Plan**

ADDRESS COMPETITIVE CHALLENGES/BROADEN THE FIELD

4. Strategy:

Increase awareness of the value that actuaries add and stimulate the demand for actuaries.

Supporting Goals:

- Marketing plans are in place effectively targeting:
 - Current Employers
 - Potential Employers
 - Members
 - Students
 - Others
- Accurate supply and demand information exists for key actuarial markets.

5. Strategy:

Offer certification of a variety of accomplishments while preserving the designations of FSA and ASA for those demonstrating commensurate depth and breadth.

Supporting Goals:

- A certain number of certificate programs, including non-traditional ones, are established.
- A basic education curriculum is established and recognized broadly by other actuarial organizations as well as by other risk professionals.
- Minimum goals for number of certificates/program are met.
- Certificate programs facilitate membership employment in a greater number of fields.
- Members report that customized certificate programs enhance membership retention.
- Identifiable sets of members satisfy the IAA syllabus requirements.
- Travel time to the ASA and FSA designations is reduced to minimum that does not compromise their value.
- Members have continuing education opportunities and requirements at all levels.

6. Strategy:

Actively encourage development of new fields of practice.

Supporting Goals:

- New section structure meets current and emerging needs of members.
- Unaligned sections have found a home in new structure addressing the “wider fields.”

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Appendix B – List of Firms Interviewed By Market Segment

Numbers in parentheses indicate that many individuals were interviewed from that firm. However, in every case, these interviewees perform different functions in different Practice Areas or different lines of business.

Traditional Market	Broader Financial Services Market
Anthem Blue Cross and Blue Shield Aon Consulting Bryan Pendleton Swats and McAllister Division of Insurance, State of Iowa Ernst and Young (2) George W McCauslan Actuary-Consultant Hewitt Associates Insurance Department, State of Illinois K-W Actuarial Services Milliman USA (4) Mitchell Serota & Associates Mutual of Omaha Northwestern Mutual Life Polysystems, Inc. Robertson Eadie and Associates Social Security Administration (2) Tillinghast Towers Perrin USA (3) Townsend and Schupp The Shapiro Network United Health Care Wellpoint Health Networks Willis Re	Aeltus Funds Management American Express Financial Advisors AXA Multi-Management Bear Stearns Equity Research Department, Lutheran Brotherhood Fidelity Investments GMAC John Hancock Mutual Funds J P Morgan Chase (2) Merrill Lynch Moody's Investors Services Morgan Stanley (2) Nextar Ventures New Salem Capital People's Bank ProTrader Brokers Royal Bank of Canada Dominion Salomon Smith Barney (2) Standard and Poor's Wells Fargo Bank (2)

**Appendix C – Secondary Market Research Sources,
Internal SOA Documents, and Web Sites**

OTHER RESOURCES AND REPORTS

Tillinghast –Towers Perrin, 2000 Financial Services Industry, CEO Survey Reports, 2000 (data gathered July – September 1999)

Casualty Actuary Society, Report on the Use of Actuaries in Mergers and Acquisitions, 2000

“Customer” Perceptions of Casualty Actuaries, in Breakout Session Summary, March 2001 CAS Leadership Meeting

The State of the Market, **The Actuarial Review**, Casualty Actuary Society, May 2001.

INTERNAL SOA DOCUMENTS

Draft Leading Objectives for the Quantitative Risk Analyst (QRA) – TEFQ 2005

Report of the Task Force on Education and Qualifications 2005, dated October 2001

Report of the CEO Advisory Task Force, November 1999

Report of the Task Force on the Actuary of the Future, 1988

Strategic Planning Committee Reports, 1991 1997, and 1999

SOA Strategic Plan, 2001

Current SOA Syllabi

WEB SITES

SOA.org

CAS.org

actuaries.org.uk

iafe.org/educate/core

RMI.gsu.org

stats.uwaterloo.ca/Stats_Dept/grad

wisc.edu/grad/catalog/business/businessC

ieor.columbia.edu/finance

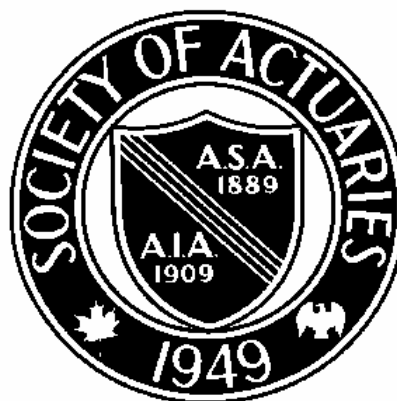
web.city.ac.uk/library/ckl/msc5

dev.cba.utulsa.edu/msfinance/riskmgt

www.garp.com/FRMExam/index.

Appendix D – Marketplace Employers Interview Protocol

The following pages reproduce the entire interview protocol, exactly as the interviewers used it, with the exception that some of the font sizes have been reduced to save paper and space.



***Market Employers Interview Protocol:
Financial Services***

Society of Actuaries

Market Opportunities Research



February 2002 Ver. 1.3

Interviewer's Instructions:

To conduct this interview you will need:

1. Micro-cassette tape recorder
2. 2 90-minute blank tapes per interview
3. Copy of this protocol with the TWO skill sets data collection documents (two copies of each of the following, one for your reference and one for the interviewee):
 - a. Skill Sets Gradients
 - b. Business Savvy Skill Sets
4. Sample Business Problems reference sheets

Tape Recording

As you prepare for the interview, check:

1. Batteries working – change to new after every 4 hours of recording.
2. New, blank tape loaded into the recorder
3. Sound volume control set to maximum
4. Check the recorder and tape by recording a short blurb:
 - Your name
 - The date
 - The city and company you are visiting
 - The name of the interviewee and his or her title, descriptive of the reason for interviewing this person (e.g. consulting pension actuary, actuary in a bank, executive in a mutual fund company...)
5. Playback your intro to check the recorder; then leave you intro on the tape.

During the interview

As the interview begins, start the tape recorder as you are seated.

1. State to the interviewee, "I have a tape recorder running so that we can make a transcript for analysis later. I hope that is alright with you."
2. Position the recorder on an upright surface within 4-5 feet of the subject and within a similar distance of yourself. Ideally it is on a desk or table between you. Aim the microphone upwards and not pointed directly at one or the other of you.
3. Place a second, blank 90-minute micro-cassette, unwrapped and ready on the tabletop near the recorder.
4. As the first 90-minute micro-cassette tape runs out, remove the first tape and insert the second fresh tape. **DO NOT ATTEMPT TO RECORD INTERVIEW CONVERSATION ON BOTH SIDES OF ANY TAPE.**
5. Label the actual tape (not the case insert) with the date, interviewee's last name, and number the tapes used 1 and 2 in sequence.

Explanation of Purpose

It is important that you explain the purpose of this interview as described below, so that we gather consistent data. You need not read the statement verbatim each time, but it is essential that you use the key points and terminology provided here.

You will use one of the following two Interviewer's Explanations of Purpose, depending upon whether the interviewee is an actuary in a traditional employer firm, or someone who works in one of the broader financial services industry firms.

Interviewer’s Explanation of Purpose – Traditional Employment Market

“The Society of Actuaries is conducting research into the potential employment opportunities in the several segments of both the traditional employment marketplace for actuaries and more broadly across the rest of the financial services marketplace.

“The Society wants to gauge the marketability of not only its traditional professional actuarial credentials, but also determine the potential employability of people with new sets of skills in the general area of evaluating, anticipating and managing risk.

“We will not attach any label on what the marketplace might find employable, in order to avoid mixing actual needs for skill sets with existing perceptions of what a term or credential means. For example, the term actuary generates certain perceptions based upon your business experiences. We want to start with a clean piece of paper.

“I have a series of questions prepared, and some lists of things I will ask you to read and give me your opinions.

“Do you have any questions before we begin?”

Ask about how much time the interviewee has, and budget it accordingly.

Read the following introduction and each questions aloud to the interviewee in each interview.

“Throughout this interview, we would like you to consider your business and industry {insert correct descriptor: life insurance, health benefits systems, retirement benefit systems, financial reporting...}. We would like for you to think in terms of the next three to five years into the future.

“Your firm and your competitors will face many different kinds of business problems and market opportunities in the next three to five years. Some of these will involve the specific areas we want to ask you about. Some of those business problems will require skilled people finding solutions in business disciplines outside of our areas of interest.

“Specifically, we are concerned with the changes in its business environment your enterprise faces or will face. These changes might arise from any number of situations, events, or conditions ranging from Acts of God and people, from market fluctuations to the health of the economy, to societal and demographic trends. Certainly, some of these changes represent opportunity, others represent risks.

**Interviewer – If you used the above Explanation of Purpose –
proceed now to question 1 below**

Interviewer’s Explanation of Purpose – Broader Financial Services Market

“The Society of Actuaries, a not-for-profit professional organization, is conducting research into the potential employment opportunities in the financial services marketplace.

“The Society wants to gauge the marketability of not only its traditional professional actuarial credentials, but also determine the potential employability of people with new sets of skills in the general area of evaluating, anticipating and managing risk.

“We will not attach any label on what the marketplace might find employable, in order to avoid mixing actual needs for skill sets with existing perceptions of what a term or credential means. For example, the term actuary generates certain perceptions based upon your business experiences. We want to start with a clean piece of paper.

“I have a series of questions prepared, and some lists of things I will ask you to read and give me your opinions.

“Do you have any questions before we begin?”

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Ask about how much time the interviewee has, and budget it accordingly.

Read the following introduction and each questions aloud to the interviewee in each interview.

"Throughout this interview, we would like you to consider your business and industry {insert correct descriptor: banking, investment banking, mutual funds...}. We would like for you to think in terms of the next three to five years into the future.

"Your firm and your competitors will face many different kinds of business problems and market opportunities in the next three to five years. Some of these will involve the specific areas we want to ask you about. Some of those business problems will require skilled people finding solutions in business disciplines outside of our areas of interest.

"Specifically, we are concerned with the changes in its business environment your enterprise faces or will face. These changes might arise from any number of situations, events, or conditions ranging from Acts of God and people, from market fluctuations to the health of the economy, to societal and demographic trends. Certainly, some of these changes represent opportunity, others represent risks.

Interview Questions

1. What do you believe are the top three or four changes you will see in strategic thinking about your business and how it operates over the next three to five years? Please, respond in terms of things like who your customers will be, how you will relate to them, the distribution channels you will employ, and the products and/or services you will offer.
2. What do you believe will be the key forces in your business environment driving those changes?

These drivers could include anything from global warming to regional economic conditions to new laws or regulations. Any force in the society, the economy or your business sector that will drive these changes.

3. Over the next three to five years, what kinds of business risk challenges will you and your firm have to anticipate, analyze, and address?

Think of risk in the broadest possible terms, any event or condition that could have an impact on the financial health, market position, or operation of the business.

These risks could be traditional, that is risks that all firms in your business have to face and will continue to face, as well as new risks arising from the drivers we've just been discussing.

[If asked for an example, refer to the accompanying document "Sample Business Risks" for the segment this interviewee works within: commercial banking, mutual funds, stock brokerages, financial services consulting firms, etc.

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If the interviewee is an actuary, he or she is a professional who works in these areas daily. If an actuary asks for an example, provide the example of clustered risks, which surfaced in the events of September 11, 2001.]

4. Tell me how you believe these risks will impact your business in terms of operations, financial condition, profitability, liabilities, assets, politics, regulations, competition, or any other categories you might choose to label the impacts of these risks.

The next several questions concern the kinds of people you and your firm will turn to for help in analyzing and managing these risks in terms of the skills these people would bring to bear on these risks.

Rather than thinking of people or departments you already have, or a particular kind of education or credential, like an MBA or CPA, I need you to think in terms of the kinds of skills sets you think the people who will help you handle these risks will need to bring to the table.

Let's define skill sets like this: degree of capability to apply knowledge and experience, clustered around a common theme. For example, business skill sets include clusters we might label accounting, marketing, leadership, business communication, and math or quantitative skills. And, of course, there are many others.

[Pause to gauge the interviewee's understanding. If you perceive confusion, invite questions. Wait to make sure the interviewee understands this request before proceeding.]

5. What kinds of skill sets do you believe your firm will need to find in the people it calls upon to help you anticipate, analyze, and address?

[Interviewer: Jot down a list of these skill sets for the next question.

[Interviewer: Before moving on, consider the need to ask probing or clarifying questions. Ensure that the answers to the last three items will allow us to clearly chart a correspondence between:

risk problems ? drivers ? skill sets

6. You mentioned several skill sets that I have listed here. Now, I would like you to give me a sense of the degree of fluency or expertise you believe you will seek in people you hire or consultants you retain to help you with these risks.

Try to give me a sense of the level of capability by giving examples of what a competent person could do for your firm in each area.

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[If asked for an example, use the following. Musical skill ranges from a child-beginner to a concertmaster or renowned performer. A pianist, for example, might be capable of playing at various levels of difficulty and sophistication from Chopsticks to Mozart. Some pianists can play various types of music from swing, to rock, religious, rap, jazz or classical. Some have true concert-level skills in only one or two types; others can play virtually any type. What I'm looking for is the level of competence and the types of skills within a general skill set area you will need.]

7. Now, I am going to show you five lists of skill sets. For each skill set, there is a ten-point scale, ranging from minimal to highly expert. Please, mark on each of these five scales the level of skill you believe you will need to find in the people you hire over the next three to five years to help you with the business risks we have been discussing.

{Note - *If the interviewee is an actuary* working in one of the traditional employment arenas for actuaries, ask the interviewer to tell you what role the actuary he or she is thinking about would play in the firm: new product development, rate setting, reserve analysis.... If the interviewee is *not an actuary* working in one of the traditional employment arenas *ignore this instruction.*}

If you believe the skill set is irrelevant to your needs in terms of handling these risks, please, check the box at the bottom next to the number zero.

{At this point the interviewer will hand the interviewee the skill set gradients currently in draft form.}

8. Now, I am going to give you one more list of skills, which for research purposes we have labeled, "Business Savvy." Rather than choosing a level of skill, in this area we would like you to use the pick list I am about to hand you. **There are 6 clusters of skills on the list. Please, indicate for each of the six clusters how important it would be for people you would hire to have the skills indicated.**

{Hand the interviewee the Pick List of Business Savvy Skills, ask him or her to **mark the answers as directed on the Pick List.** There are spaces after each question for recording answers. They can answer by marking the letter in front of the skill set, A, B, C..., or F.}

9. Now, consider the five skill sets for which you chose a level of expertise needed, and the Business Savvy Skills. That's six skill sets in all.

Among these six skill sets, tell me which two are the most important two in terms of hiring people to help analyze, forecast, and manage risk. These two would, in your opinion, be so important that no matter what else people might bring to the table you would not hire or retain them without those two skill sets.

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10. Among these six skill sets, tell me which two you view as the least important in terms of helping your business. They may still be important to have, but would be the least important on the list.

Only if time permits:

11. We are still seeking candidates for these interviews, especially employers in the financial services industry outside the traditional employment market for actuaries. Is there anyone you could recommend for one of these interviews?
12. When you hear “actuary” or think about what actuaries do and can do, what are your perceptions of actuaries?

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Appendix E – Skill Set Gradient Definitions

The following skill sets emerged from the interviews with SOA Leaders and Academics in Stage 1 of the MOR. Subject matter experts, including professors, SOA managing directors, staff actuaries and others established the definitions of the gradients on each ten-point scale.

Level of Capability	Quantitative
10	PhD in math, physics
9	Extensive experience applying complex, multivariate modeling to diverse business problems and models.
8	Adept with complex, multivariate modeling, chaos mathematics
7	Performs calculus-based statistical modeling
6	Adept with the calculus, finite and infinite series, differential equations
5	Applies multivariate statistical methods, multiple regression, multivariate analysis of variance; the general linear model
4	Applies basic statistics, simple linear regression, analysis of variance, and non-parametric techniques
3	Facile with algebra, simple and compound interest, time value of money
2	Calculates ratios and accounting metrics
1	Achieves basic business numeracy; can balance checkbooks and read budgets

Level of Capability	Accounting
10	Professor of Accounting or CFO of Fortune 500 firm
9	Partner in a national or international CPA firm
8	CPA
7	Audits financial statements and prepares tax returns
6	Analyzes financial statements and prepares pro forma projections (e.g. for mergers).
5	Analyzes details in income statement, performs asset valuations, liability analysis.
4	Applies reserving and asset valuation techniques.
3	Interprets financial services firms' financial statements.
2	Interpret income statement, balance sheet, cash flows.
1	Double entry/general ledger principles.

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Level of Capability	Financial Institutions, Markets
10	Manages treasury, serves as CFO for Fortune 500 corporation
9	Manages portfolios of assets, mutual funds, or trades currencies
8	Performs arbitrage tasks; structures investment banking deals
7	Models and analyzes financial risk for enterprises; analyzes market sectors or funds
6	Creates pricing models for new securities issues
5	Analyzes A/L and recommends management strategy & tactics
4	Values assets and analyzes liabilities
3	Analyzes consumer credit
2	Explains fluently various securities, cash instruments, and secondary market trading
1	Explain financial intermediation and the role of financial institutions

Level of Capability	Economics
10	Makes national monetary policy
9	Professor of Economics
8	Adept with econometric modeling, forecasting
7	Explains and forecasts interest rate curves, market trends, expansions & recessions
6	Forecasts short-term economic trends; can explain monetary policy
5	Explains global trade dynamics, monetary policies
4	Interprets national, regional and global macroeconomic indicators
3	Explains inflation, micro-level economic unit behaviors
2	Interprets supply and demand curves, basic economic data
1	Describes supply and demand

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Level of Capability	Assessment & Management of Business Risk
10	Heads risk management for Fortune 500 firm; or global consultant in business risk management
9	Functions as chief actuary or risk manager
8	Analyzes and manages mitigation of enterprise risks
7	Designs enterprise financial and other kinds of risk management strategy and tactics
6	Analyzes enterprise risks and forecasts exposures.
5	Manages enterprise insurance planning and coverage
4	Explains and evaluates enterprise risk
3	Describe and explain techniques for managing risks
2	Describe and explain the role of insurance and reinsurance
1	Explains various types of enterprise risk: financial, operational, political...

Appendix F – Business Savvy Skill Set Definitions

SOA Leaders and Academics in Stage 1, as well as the overwhelming majority of Market Leader interviewees in Stage 2, identified this amorphous skill set, which defies aligning to any linear scale of increasing competency. They used a variety of terms to describe this skill set, frequently using terms like:

- Creative problem solving, creative thinking
- Business acumen or good business sense; “street smarts”
- Curiosity; continuous or life-long learning, multidisciplinary education
- Customer focus and bottom-line orientation
- Communication (written and oral), persuasion, articulation, business presentations
- Leadership; the capacity to influence or to motivate others by gaining their esteem
- Managerial skills; project management; resource allocation
- Quick study, quick learner
- Technological competent; computer power user

Through extensive collaborative effort, the following outline of Creative Business Savvy emerged. These are the statements interviewees in Stage 2 rated for relative importance.

Skill Areas	What the area includes
A. Business Communication	Excellent one-on-one verbal communicator; makes persuasive, logical and engaging business presentations; fluent business writing skills; listens well; sorts incoming data and distributes it effectively to others who need it.
B. Self-Development	Has intellectual horsepower to learn new information quickly; connects seemingly disparate facts into new insights; accepts accountability to develop own knowledge across a broad range of interests; ambitious to advance in his or her career.
C. Leading People	Assesses people accurately; deals with subordinates even-handedly and candidly yet with compassion and caring for others; engenders the respect of others who will follow his or her lead; achieves organizational goals by motivating others to excel
D. Relating to Others	Shows savvy in interpersonal relationships; exhibits a flexibility in dealing with diverse behavior in others; builds a network of open, collaborative trusting relationships within and without the organization; handles conflict productively; builds team esprit de corps.
E. Business Acumen	Perceives quickly the essence of business situations, and acts accordingly; devises creative, systemic solutions to problems; balances attention to tactical detail and a broad strategic view; gets results by building processes that work and continuously improve; exhibits a broad knowledge of business disciplines beyond own areas of expertise.
F. Personal Courage	Shows composure despite fear; acts with consistency and high ethical standards; speaks truthfully; shows self-knowledge and strives to develop; engenders trust among others; balances work, life, and good health.

Appendix G – Background and Methodology

Background

The Strategic Planning Committee presented its new Strategic Plan for the Society to the Board of Governors in late 2000 for approval (granted in March 2001). Several of the new Strategic Initiatives (see Appendix A) required research into member satisfaction and into market demands for actuaries and new actuary-like credentials.

The Market Opportunities Research (MOR) Project has focused on these objectives:

- Describe the patterns of change the financial services industry is experiencing, and will continue to make in the next several years.
- Identify the societal and economic marketplace forces driving those changes.
- Reveal the strategic directions financial services firms are taking to position them for the future, and assess, anticipate, and manage their business risk.
- Describe the skill sets marketplace employers seek in those they will hire to assess, anticipate, and manage their business risk.
- Define qualitatively differences in these skills sets among employer segments in the marketplace.

Market Segments

The traditional/insurance market clearly continues to represent the primary market for actuaries.

At the outset of this project, LSG recommended that the SOA might divide its potential new markets into two large domains, Financial Services and Enterprise Risk Management, defined as follows.

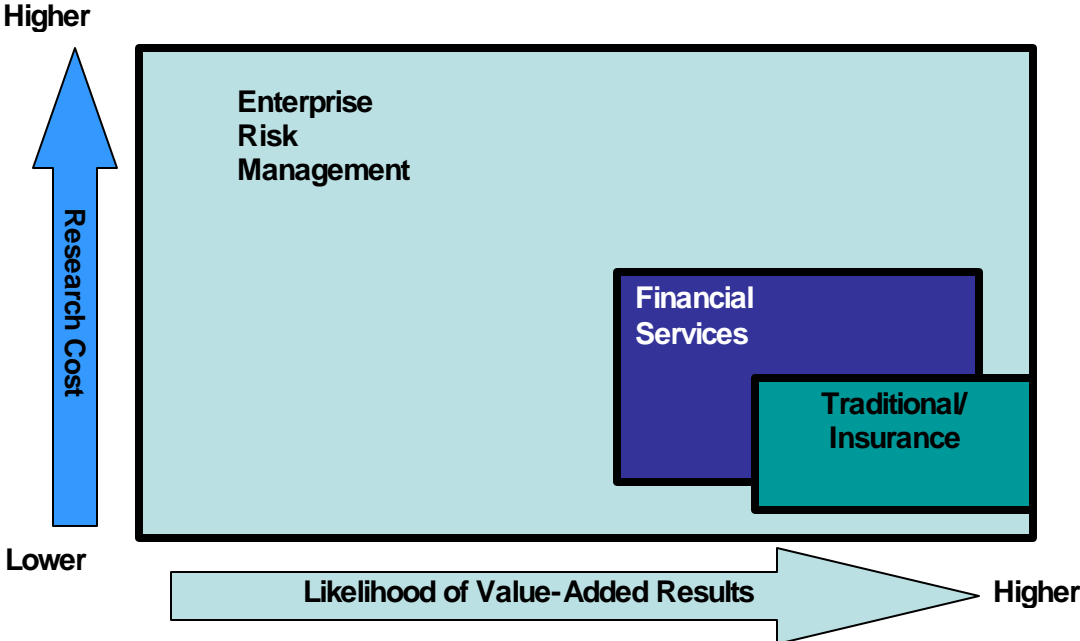
Financial Services – Defined in the broadest possible sense to include insurance companies (writing all lines of coverage), commercial banks, securities brokerages, financial planning firms, investment banks, mutual fund companies, and combinations of the above as this sector continues converging.

Enterprise Risk Management – Defined to include any business or enterprise beyond the Financial Services domain, including branches and agencies of governments, that face business problems to which actuarial science methods can provide ways to manage the risks of contingent events.

There are traditional and potential/emerging opportunities in both domains. Based on the traditional experience of actuaries, LSG and the SOA believe that the Society has a much clearer picture of its Market Opportunities research needs within the Financial Services domain than in the Enterprise Risk Management domain. It is also easier to envision and concretely describe emerging opportunities in the Financial Services domain, not only in insurance applications but also in banking, securities, and financial consulting firms.

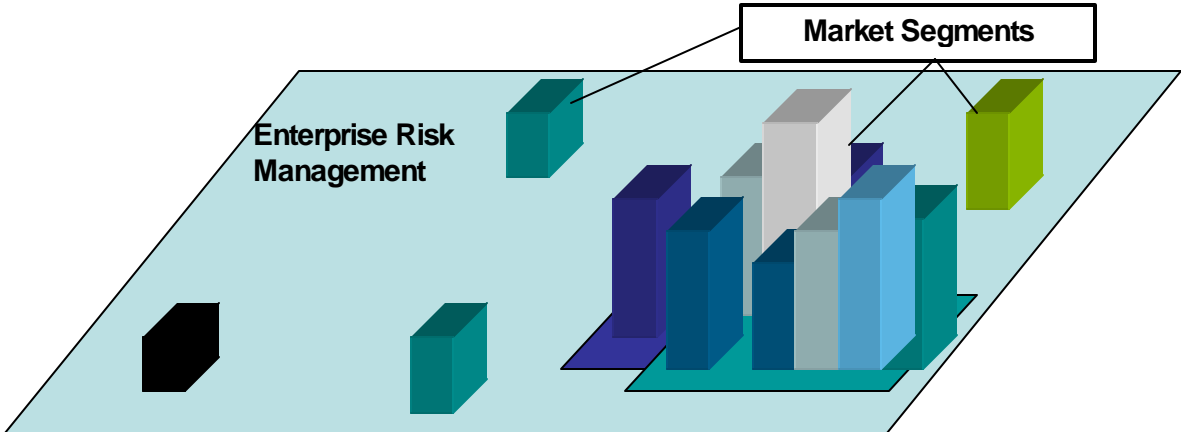
The task will prove much harder for any of the few traditional applications of actuarial science, and certainly the amorphous emerging market opportunities, in the Enterprise Risk Management domain.

SOA Market Opportunities Research Domains



It will prove easier to research market opportunities in various segments by asking business leaders to describe business problems and opportunities their industries or sectors face, and then asking them to list the skills they would want an expert to bring to their firms.

Depiction of How Potential Market Segments May Concentrate



While the broader domain of Enterprise Risk Management may include a number of strategically important market segments, the working hypothesis is that the greater likelihood of discovering new segments, both in terms of the number of segments and the relative sizes of segments, lies within the broader financial services market.

Summary of Deliverables

The MOR project has three stages; this report ends Stage 2.

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SPC Version – Report on Marketplace Interview

Stage 1 – Assess Market Conditions and Requirements

Purpose: Forecast the actuarial skill sets that will be marketable over the next 3-5 years in the traditional (primarily insurance) and financial services markets.

Deliverables Summarized: Where are financial services firms headed, strategically, and what forces drive those changes. What skill sets will firms seek to hire in order to position themselves in terms of business risk in order to survive and thrive in the next decade?

Stage 2 – Gap Analysis

Purpose: Describe the gap between the current credentials' skill sets and market needs, and describe gaps a new credential or credentials could fill.

Deliverables Summarized: Create a taxonomy of skill sets. Ask the marketplace what level of skill it will seek in each skill set. Compare the skill sets of current SOA credentials to what the marketplace wants, and describe any gaps.

Stage 3 – Sizing the Markets

Purpose: Gauge the potential numbers of employers in the market segments identified.

Deliverables Summarized: Qualitatively determine which market segments are the most likely places for actuaries to find employment opportunities. Estimate the size of those employment markets, and recommend objectives for any further, more quantitative, research.

Methodology

This section provides a summary of the methodology; the appendices as indicated provide more details.

Interviews with SOA Leaders and Academics

In Stage 1, Leading Solutions Group (LSG) interviewed 13 SOA Leaders and academics. A number of secondary market research resources (see Appendix C) added to the interviewees perceptions.

This process, the subject of a report delivered to the SOA in December 2001, yielded an overview of the financial services market (a major section of the Stage 1 Report, December 2001); the forces driving the marketplace, and the skill set domains employers will seek.

The SOA leaders and academics quickly and consistently identified these as the key skill sets in the analysis, anticipation and management of business risk:

- ❖ Quantitative
- ❖ Accounting
- ❖ Financial Institutions and Markets
- ❖ Economics
- ❖ Assessment and Management of Business Risk
- ❖ "Creative Business Savvy"

The latter skill set label attempts to capture an amorphous body of skills and knowledge that SOA leaders and academics described in various ways. The essence of that skill set is a

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combination of comprehensive knowledge of business, economics, and the markets, applied to business problems and opportunities to find creative, implementable solutions.

Developing the Protocol and Skill Set Gradients

The SOA and LSG team built upon those outcomes from Stage 1 and developed:

- An interview protocol for interviewing marketplace employers (See Appendix D) – focused on challenges and changes, market force drivers, and skill sets employers need.
- A set of 10-gradient scales for the first five of the six skill sets (Quantitative, Accounting, Financial Institutions & Markets, Economics and Assessing and Managing Risk; see Appendix E) – with the help of subject matter experts, each scale represents the entire spectrum from basic literacy to world-class expertise, with increasing levels of skill between.
- A description of six skill sub-sets for the sixth, Creative Business Savvy, skill set (Appendix F):
 - A. Business Communication - one on one and persuasive presentations
 - B. Self-Development – intellectual horsepower and continuous, broad-based learning
 - C. Leading People – influencing and motivating others to achieve organizational goals
 - D. Relating to Others – adapting with versatility to effectively build networks
 - E. Business Acumen – “street smarts” and a broad knowledge of business disciplines
 - F. Personal Courage – ethics; poise; self-possession; and temerity before powerful people.

Interviewees

The LSG and SOA team determined target numbers of interviewees in each traditional and each broader financial services market segment based upon these criteria:

- SOA Practice Area membership statistics
- Proportions of practicing actuaries in each PA employed by insurers/governments vs. consulting firms
- Enough interviews to observe qualitative patterns in the data for each market and segment
- How large is the market segment, in terms of the number of employers
- How concentrated is the sector; whether a relatively few firms have captured most of the business

LSG interviewers completed 29 interviews with traditional market employers, including 14 from insurers and regulatory agencies and 14 from consulting firms, across all PA. From the broader financial services market, 25 leaders completed interviews. (Appendix I tabulates the numbers of interviewees by market and segment.)

The team sought to interview people in positions to make hiring decisions, or strongly influence hiring. Further, the interviewees had to be involved in the assessment, anticipation and management of their firms’ (or in the case of consultants, their clients’) business risk.

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- In the traditional market, interviewees held positions such as founder, president, partner, chief actuary, or a leader in a department or region.
- In the broader financial services market the interviewees included presidents, CEO, managing directors, senior vice presidents, fund managers, and heads of research and analysis.
- At least one interviewee in each broader financial services market segment holds actuarial membership. A number of others hold actuarial credentials, but have not used them in a traditional actuarial environment for at least 10 years.

Examples of the latter: a bank chairman who is an ACAS, but left P&C work for commercial banking in the 1970's; and a mutual fund company subsidiary president who began his career many years ago as a life actuary.

Appendix H – Market Opportunities Research Project Deliverables by Stage

There are three potential Stages, each to be undertaken when the results of the previous stage warrant moving forward in the opinion of the MMRA group.

Each Stage also has specific deliverables, with the understanding that more light will be shed on all the deliverables as the Stages progress.

Stage 1 – Assess Market Conditions and Skill Requirements

Purpose: Forecast the actuarial skill sets that will be marketable over the next 3-5 years in the traditional (primarily insurance) and financial services markets.

Deliverables:

1. List of where and how the traditional and financial services markets are heading based upon overall challenges in their internal and external environment in 3-5 years.
2. List and description of environmental marketplace drivers causing challenges in the traditional and financial services markets.
3. Specific business problems traditional and financial service markets are facing (by segment if applicable) for next 3-5 years.
4. Skill sets that are desired by traditional and financial service companies for the next 3-5 years to solve business problems and to obtain their goals (i.e. what are the marketplace needs/requirements for skills).
5. The priority or importance of various skill sets desired by traditional and financial service segments and the difference in skill set priorities by segment.
6. The perceptions of actuaries as the profession to deliver skill sets vs. competition.
7. The challenges SOA will face in marketing actuaries to the target segments because of perceptions.

Stage 2 – Gap Analysis

Purpose: Describe the gap between the current credentials' skill sets and market needs, and describe gaps a new credential or credentials could fill.

Deliverables:

1. Number of businesses in the traditional and financial service markets by similar business problem for next 3-5 years.
2. Total demand for next 3-5 years for particular skill sets by segment within traditional and financial service markets.
3. The gap between desire marketplace skill set requirements of traditional and financial service segments and SOA's existing credentials and potential credential. Also, should we be examining SOA's broader educational program, which also includes continuing education?
4. Recommended changes (if applicable) to SOA's credentials to meet the most important marketplace skill set needs/requirements. What skills should SOA core educational program endeavor to teach?

Stage 3 – Sizing the Market

Purpose: Gauge the potential numbers of employers in the market segments identified.

Deliverables:

1. Marketplace segments SOA should target for the marketing of credentials (that match SOA's current credentials, or that presents the greatest opportunity and hence, SOA should change to meet the needs of that segment).
2. The potential opportunity and demand for actuaries for the next 3-5 years in traditional and financial service markets based upon the recommended targets.

Appendix I – Tabulated Interviewee Counts by Market and Segment

TRADITIONAL ACTUARIAL EMPLOYMENT MARKET

SOA Member-Employers from Governments or Insurance Companies	Practice Areas				Total
	Life Insurance	Retirement	Health	Finance	
	3	3	5	3	14
SOA Member-Employers from Consulting Firms	4	7	3	1	15
Total	7	10	8	4	29

BROADER FINANCIAL SERVICES EMPLOYMENT MARKETPLACE

Interviewees	Commercial Banks – Money Center	Investment Banks	Commercial Banks – Super-regional	Stock Brokerages	Mutual Fund Companies	Financial Services Consulting Firms	Total
FSA or ASA	1	1	1	1	2	1	7
Sr. Managers	2	2	3	2	6	3	18
Total Interviews Per Segment	3	3	4	3	8	4	25

Appendix J -- The SOA Board of Governors Strategy House

