SOCIETY OF ACTUARIES

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Where are the Actuaries?

by Tia Goss Sawhney

There are good arguments as to why actuaries should have an integral role within nearly every IT and business intelligence (BI) company serving the insurance industry:

1. **Data.** Actuaries have always been the ultimate power users of insurance company data. As a result we understand the supply chain of insurance data: from what gets/should get captured, to how it gets consolidated and sometimes corrupted along the way, to how it ultimately gets used to make critical decisions.

   a. We understand the peculiarities of insurance data in ways that people outside the industry do not understand the data.

   b. Our perspective is broader and often deeper than any of the other insurance industry business users.

   c. We focus more on the goals, than the process. IT people, even those with insurance experience, often get the mechanics of data management and lose sight of business decisions enabled by the data.

2. **Analysis.** Actuaries have long been pioneers in the analysis of insurance data. New business intelligence tools are being designed for the analysis of insurance data. These tools will be stronger if they incorporate what actuaries already know about insurance data analysis.

3. **Credibility.** Actuaries have incredible credibility within the insurance industry. An IT/BI team that includes actuaries will be perceived by insurance company customers as stronger than a team without actuaries.

4. **Minimal skill gap.** Of all the business users in an insurance company, actuaries are the most technical. It is easy for us to learn both the technical skills and clear, linear thought processes, and communication skills required in the IT/BI world.

While these arguments might sound good to us actuaries, they are, unfortunately, ineffective. I know this from personal experience. Being a gregarious person, not interested in working on the nth actuarial valuation, over the years I have initiated conversations with several IT and BI companies serving the insurance industry. Each time I have been told that there is no role for actuarial skills in their work.

Although the lack of interest from the IT/BI companies that I experienced was with respect to both technical software development roles and soft skill roles such as selling software products to actuaries and other insurance industry business users, for the remainder of the article I will focus on actuaries in development roles.

Perhaps a better salesperson than me could have made more progress in these discussions. But it does not look like many actuaries actually have. Consider the following:

- *Of the 20,106 members on the SOA roster as of July 2008, only 194 declared their "employment type" to be "software developer/vendor"—less than 1 percent.*

- *The 194 is admittedly understated somewhat. There are actuaries working primar-*

ily on software development for consulting firms (example: Milliman) that list themselves as consulting actuary. Furthermore, there are some actuaries employed by software companies who list their employment as consulting actuary (or less frequently one of the other options)—many of these actuaries, however, are probably more involved in sales, implementation, or management rather than in software development.

- *Most companies that employ multiple actuaries in development roles are companies focused exclusively on actuarial software (examples: PolySystems, Actuarial Resources Corporation, GGY AXIS, and Winklevoss Technologies).*

- *Almost every large IT/BI company serving multiple industries has an insurance vertical.*

- *The following are the actuaries employed in development roles by some of the largest multi-industry IT/BI companies:*

  - *CSC*—17 (give them a gold star!)*
  - *Accenture*—4*
  - *SAS—2*
  - *Fiserv*—2*
  - *IBM (including Cognos)*, Microsoft, Oracle, SAP (including BusinessObjects), HCL, Symantec, Computer Associates, EDS*, CapGemini, Adobe, First Data, Infosys, Wipro, and NCR/Teradata—0*
  - ** In addition there are a handful of actuaries (in total) employed by these companies in roles other than development.*

Get the picture? IT/BI companies very occasionally employ actuaries. As a rule, we are not part of their insurance vertical teams. Do we care? We should care. A lot.

The reasons why we should care parallel the reasons that we should be part of the IT/BI teams:

1. **Data.** Every form of actuarial work depends on data. We need to ensure that the data that we need is captured, properly managed, and available to us when and how we need it. We need to partner with IT/BI teams to ensure that this will happen, especially since they are actively working at replacing the legacy systems upon which we have long relied.

2. **Analysis.** Actuaries are skilled at analysis. But we are not the only people with analytic skills. IT/BI companies commonly employ statisticians, accountants and other analytic professionals. These professionals are using the tools of their professions to build analysis algorithms, algorithms that claim to be better than ours, and sometimes really are. Furthermore their algorithms are getting better all the time. Actuaries are posed to be displaced as the preferred partners for insurance data analysis.

3. **Credibility.** If we lose our strong role in insurance company data and analysis, we will also lose our highly credible position within insurance companies—a position that has propelled many of us into management and leadership roles outside of purely actuarial functions. Although actuaries will still be needed for numerous statutory functions, the actuarial function will become smaller and more marginalized.

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4. **Less Relevant Skills.** Is there any doubt today that technology has an integral role in every business endeavor? That technology is at the forefront of nearly every business transformation? If we want to truly be part of the action, and not a marginal end user, we need strong IT/BI skills.

So why aren't we deeply integrated into insurance industry IT/BI software development? I have my theories. Topping the list is the actuarial exam syllabus.

The preliminary actuarial exams do not test us on everything that we might need to know for insurance risk analysis. Instead they cover the essential core topics. The syllabus does not cover data capture and management in any way, not even the rudiments of database design. The syllabus also does not cover the predictive modeling tools that long ago proved their value for risk analysis in other industries, but which are only now being brought into life and health companies–mainly by statisticians working for IT/BI companies.

We work hard to pass actuarial exams. The exams consume much of the available time for learning. We trust that the exams give us the skills we need for our job. Although the exam syllabus is falling short of this goal, part of the responsibility lies beyond the syllabus. We are so cocky about having passed actuarial exams, that when we are done, many of us feel that our days of serious learning and test taking are over. In contrast, continuous learning and additional certification are the norm

in the IT/BI industry. We don't accept that an older IT person should have no knowledge of Internet-based tools; but we accept that older actuaries will have no knowledge of predictive modeling tools.

There are, however, probably other issues at work. Although actuaries with outgoing personalities have a long tradition of moving to non-actuarial roles within insurance companies, less outgoing, more technical actuaries, the ones perhaps most suited for IT/BI work, have a tradition of staying put. This does not need to be the tradition. What if actuaries in training had to rotate through in-house IT/BI teams, including on-site vendor IT/BI teams?

Price and teamwork are other issues. Actuaries traditionally command salaries that are higher than many IT workers. This hurdle is not, however, insurmountable. Price works out if we demonstrate value. Another hurdle is team work. IT/BI work is almost always team-based, much more so than actuarial work. Working in team environments may be another skill that we need to add to our skill acquisition list, perhaps by restructuring actuarial departments or the solo-approach to exam taking.

At the beginning of the article I told you that I have never been successful in convincing an IT or BI company to employ me. I have worked only at the edges of these fields. Therefore, I have prepared this article with the intent of stimulating your thinking and discussion, rather than giving definitive answers. I look forward to the discussion. ⌨