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“To be, or not to be” ... an Actuary

By Dave Snell

Most of us are familiar with the choices posed in the soliloquy by Prince Hamlet, in Shakespeare’s famous tragedy.

Actuaries are facing a similar decision.

Some of us may choose to ignore the dramatic and accelerating changes taking place in the data science area, and their likely impact upon our profession. Like the blacksmiths who ignored the advent of cars, the camera manufacturers who laughed at the toy cameras on early smartphones, and the silent movie stars who thought the “talkies” were just a fad, we actuaries are in a profession that is facing disruptive forces and new adversaries. Their slings and arrows threaten to minimize or even eliminate demand for the skills we relied upon in the past. Perhaps some actuaries feel they will not be affected because they are already close to retirement; or they think their special niche area will always be needed. After all, there are still some blacksmiths, specialty cameras and silent movies. A few of us may survive anyway.

But what about the rest of us? Spreadsheet expertise no longer involves the ability to manually ensure that the sum of the row totals equals the sum of the column totals. Excel and other common tools can check this for you ... or for anyone else, at very low cost. Commutation functions, once a major part of risk calculations, and understandable only by actuaries, are now essentially obsolete. How long will it be before a deep neural network or a random forest will eliminate the need for a pension actuary to compute retirement funding parameters, or a health actuary to optimize a provider group mix, or a valuation actuary to determine reserve requirements?

Sure, there are still areas where traditional actuarial expertise is necessary and they will continue to command high consulting or salary rates. But these are becoming narrower in scope, and the barbarians at the gate¹ are growing in numbers and acquiring more powerful weapons and tools to break into and take over our fortress.

Enough doom and gloom though! We have the expertise, aptitude, and opportunity to avoid this dystopian scenario by making the other choice—the choice “to be.”

“To be” an actuary in demand in this new world, we need to accelerate our learning process. This September, we have a wonderful panorama of ways to do that.

The second annual Society of Actuaries (SOA) Predictive Analytics (PA) Symposium is scheduled to take place September 20–21 in Minneapolis. Last year, a little over 250 of us attended the first rendition of this; and the attendee feedback was spectacular! Forth-eight percent responded that it was Excellent and another 46 percent that it was Very Good. Only 6 percent rated it Good or Fair and nobody disliked it. The energy was contagious. We were all excited and many of us felt somewhat like the proverbial kid in the candy store ... so much to see and learn ... so many choices. Fortunately, registered attendees received audio synchronized slides for most of the sessions. But the onsite experience added many more learning opportunities.

This year, instead of four concurrent breakout session choices, we have six; and each time slot has at least one session aimed at each of the three major tracks: manager/supervisor, beginner/implementer, and advanced practitioner. Many presenters from last year will return (with updated versions or new topics, of course) and many new topics and expert presenters were added. Once again, the SOA plans to record most sessions; but still, the chance to meet the presenters in person and ask them questions of most concern to you is a huge benefit, so you will want to choose your sessions accordingly. Facilitating this, we² have categorized each of the 48 breakout sessions by appeal to the specific perspectives.

If you currently manage a department and wonder how PA can help you gain or maintain a competitive edge, and how to hire a team or train your existing associates for maximum return on your investment, we have sessions for that (such as “Building (and Evolving Into) a Product-oriented Team” and “Delphi—The Time Tested Non-quantitative Prediction Tool”). If you have been reading the recruiting ads and wondering how you can leverage your actuarial skills and increase your personal market value by mapping out a plan to reinvent yourself, we have sessions to jump start your career development (such as “How an Actuary can Become a Data Scientist?” and “New Opportunities for Actuaries—Creative Thinking Inside the Box”). If you are already an expert at multivariate regression analysis and you want to learn the intricacies of deep neural networks to extend your reputation in PA, we have sessions for that (such as “TensorFlow Workshop” and “Opening the Black Box: Understanding Complex Models”). Even if you are already immersed in PA and happy with your current position,



we have sessions on best practices with newer tools to make your job even more fun and more productive, including ways to combine R and Python and leverage the best packages from each of them (such as “Jupyter Notebooks—The Opportunity to Consolidate Documentation, Multiple Programming Languages, Input and Output”).

These are only a few examples from the dozens available. They range from new data sources (including epigenetics) through scaling your model for production use (“Commercializing a Data Science Model as API or Batch Service”). See the complete descriptions at the SOA registration site www.soa.org/pasymposium

Most of the tools (including programming languages) and techniques are free. The real cost of continued viability as an actuary in demand is the learning curve. Here, you get the opportunity to learn from, interact with, and form lasting personal contacts with experts in the specific areas of predictive analytics that best meet your professional needs.

Looking back, some blacksmiths adapted to the decline in horse transportation by forging wrought ironwork, sometimes even for cars. Some camera companies opted to partner with the smartphone manufacturers and sold millions of lenses to them to improve picture quality. Some of the silent movie stars worked on their vocal skills and transitioned into lucrative

speaking roles. We can pick up and reinforce the predictive analytics skills needed to remain viable as the preeminent risk management experts for the insurance industry. And we can get a competitive edge on this with a small time and money investment this September.

It’s a worthwhile investment “to be” an actuary. ■



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ENDNOTES

- 1 *Barbarians at the Gate* was a 1993 movie about the competing forces in a leveraged buyout—of potential interest to actuaries involved in Merger and Acquisition work. It was also a famous quote from the 1999 Canadian movie “The Barbarian Invasions,” which dealt with issues of the Canadian health care system.
- 2 I wish to publicly extend my thanks to my colleagues on the symposium’s program coordination team: Anders Larson, Xiaojie (Jane) Wang, Rosmary Cruz, Stuart Klugman, Minyu Cao, and Kevin Pledge, as well as our company-specific representatives Sarah Hinchey and Adnan Hague, and the SOA event management team of Anna Abel and Agnes Czesak. They have generously donated many hours of work in the selection of topics and presenters to make this a memorable and productive experience for all attendees.