



Lessons Learned

Viewpoints on Increasing Analytical Capabilities in an Organization

A presentation for CAS Special Interest Seminar,
In Focus: Cutting Edge Tools for Pricing and Underwriting
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Becoming an Analytics-Based Organization

- This is a change to traditional insurance culture.
- The culture has to permeate all functional areas (pricing, UW, product management, marketing, IT, agency management, claims management, etc) and support overall corporate goals.
- My presentation draws from individual client engagements that are part of this larger goal....

Agenda

- Project goals
- Champions
- Communications
- Staffing
- Working with consultants
- Technology and data
- Analysis and monitoring

Typical stages of predictive modeling project

- Establish project objectives and scope / roles / timelines
- Retrieve data
- Model
- Implement
- Monitor and refine

What is the biggest determinant of project success?

4 out of 5 consultants agree it's

Buy-in from top management on down

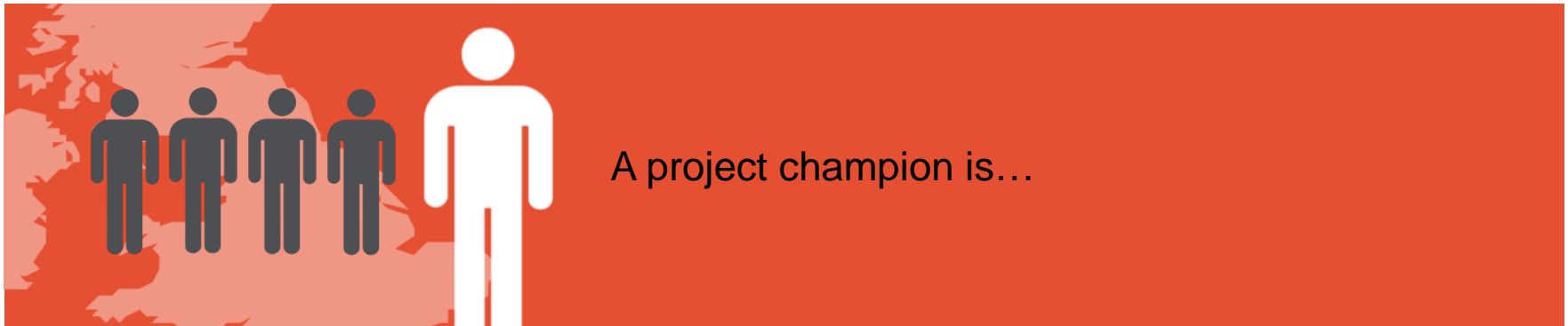
Goals

- How will project success be defined by the organization?
 - Are all areas aligned in this definition?
- Often project objectives are broad – for example, in ratemaking:
 - Improve rating accuracy
 - Improve competitive position
 - Improve profitability
 - Improve growth (volume)
 - Attract better mix of business
- How will you measure these?
- Sophisticated ratemaking analyses can achieve any one of these – but are these objectives always compatible?

Goals

- Articulate measurable priorities and constraints:
 - Reduce premium subsidization while ensuring less than $X\%$ of the portfolio receives no more than $+Y\%$ rate swing
 - Improve loss ratio without deteriorating policyholder retention by more than Z percentage point(s)
 - Increase competitive win ratio – particularly for high-valued homes
- These are not written in stone – and may be modified as results of analysis are revealed

Project Champions



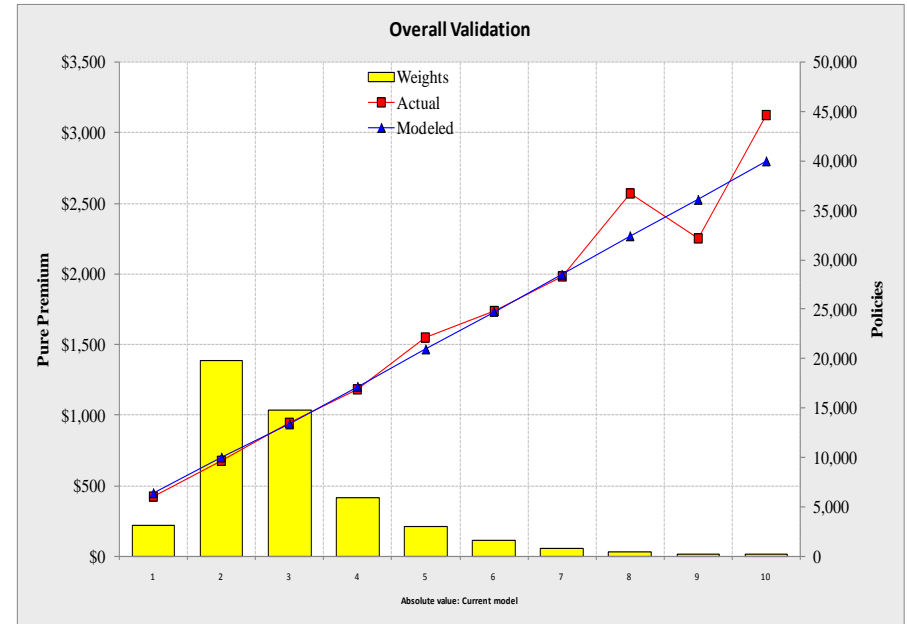
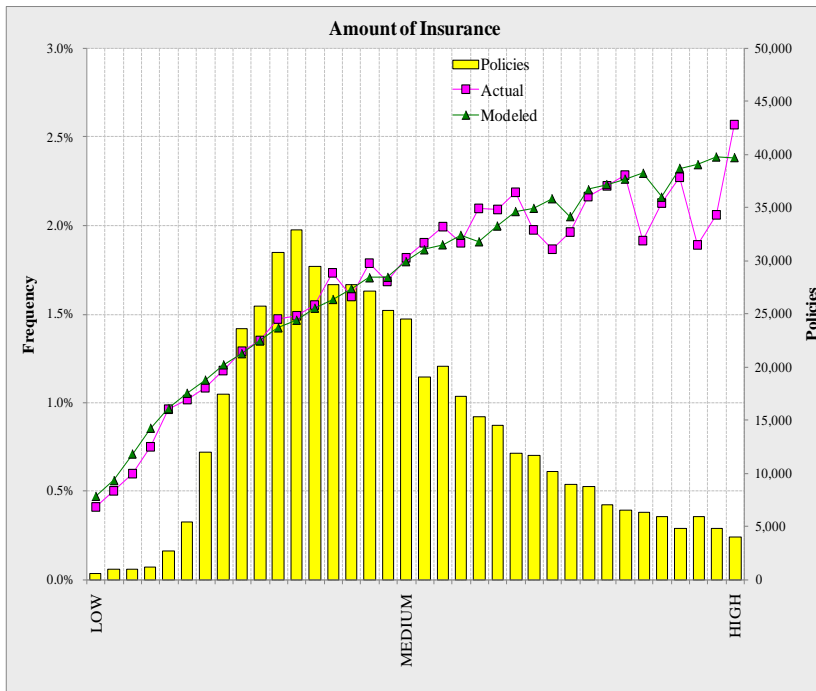
- ✓ Accountable
- ✓ Goal-oriented rather than process-oriented
- ✓ A good negotiator
- ✓ Willing to seek outside help as it supports project goals
- ✓ Capable of digging into the weeds when necessary to keep project moving
- ✓ Identifies barriers (or contingencies) and works to eliminate them
- ✓ Able to communicate across disciplines
- ✓ A tenacious bulldog and a good leader

Communications

- Engage stakeholders early and throughout (i.e., don't surprise them with results at the end)
- Tailor communications to audience and employ visualization
- For example

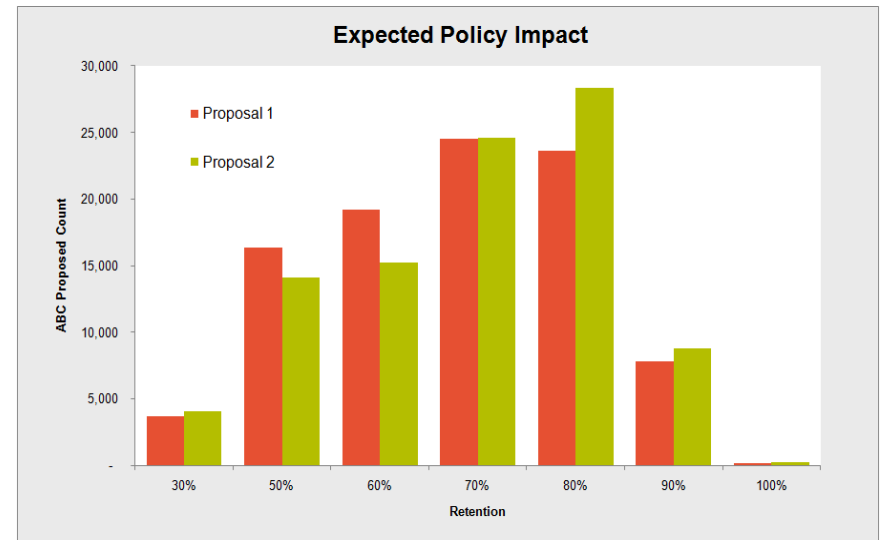
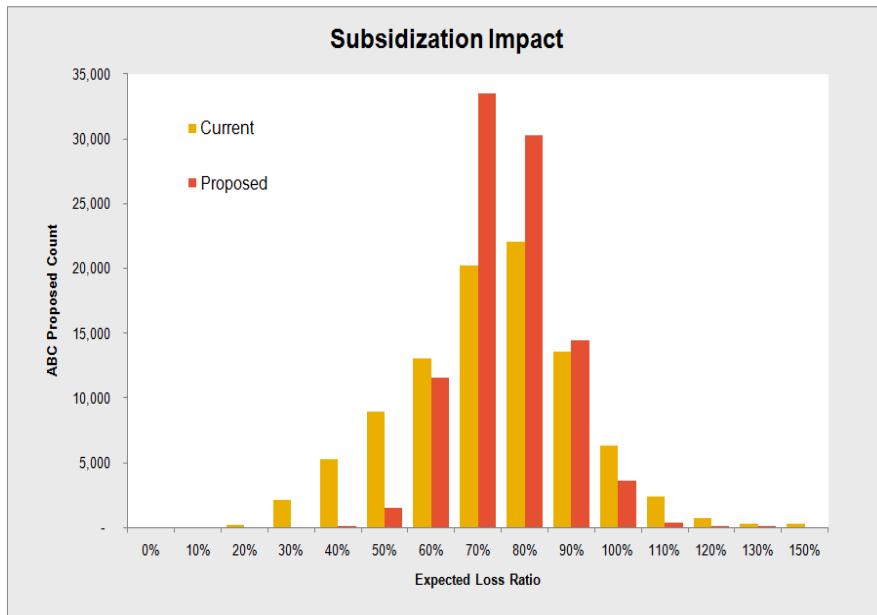
Communications

Actuaries like to know the modeling results validate well on a hold-out sample of data



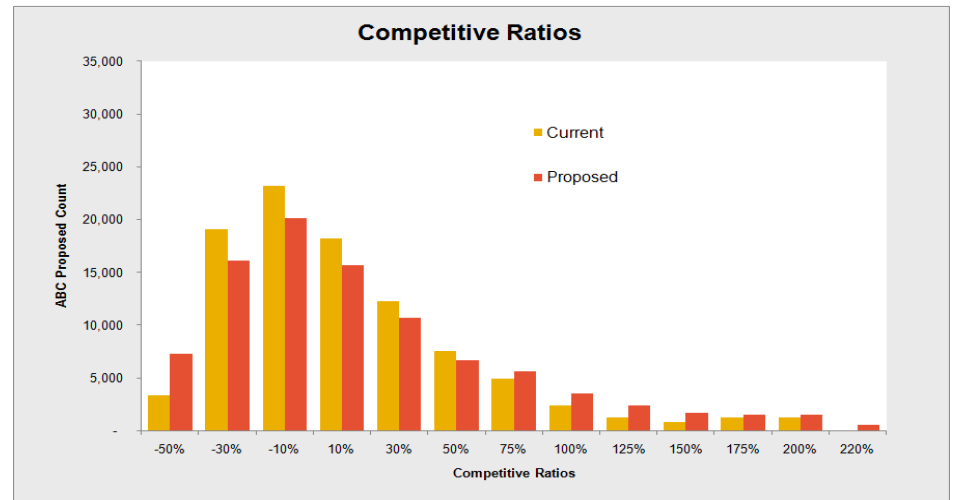
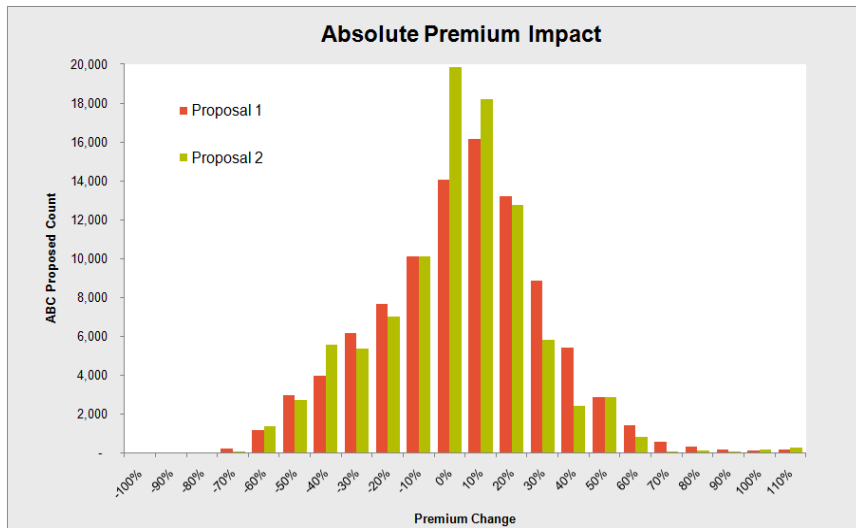
Communications

Management wants to know how the change is expected improve profitability and maintain/grow volume



Communications

Agents want to know how it will disrupt their existing portfolios or how it will provide new competitive opportunities



Communications

Can results from one project assist other functional areas?

- Loss projections
 - Pricing, Reserving, Claims Management
- Growth projections
 - Product Management, Marketing, Agency Management, Pricing
- Profitability assessments by segments
 - Pricing, Product Management, Marketing, Agency Management

Staffing

- Analytical teams require various skill sets:
 - Data retrieval / manipulation
 - Analytical / statistical skills
 - Management – ability to relate results to business objectives
- Analytical work can't be a hobby (i.e., enlist full-time dedicated resources)
- Ensure staff has just-in-time training they need
- Have a staffing contingency plan
 - Spread knowledge
 - Document effectively
 - Software

Working with consultants

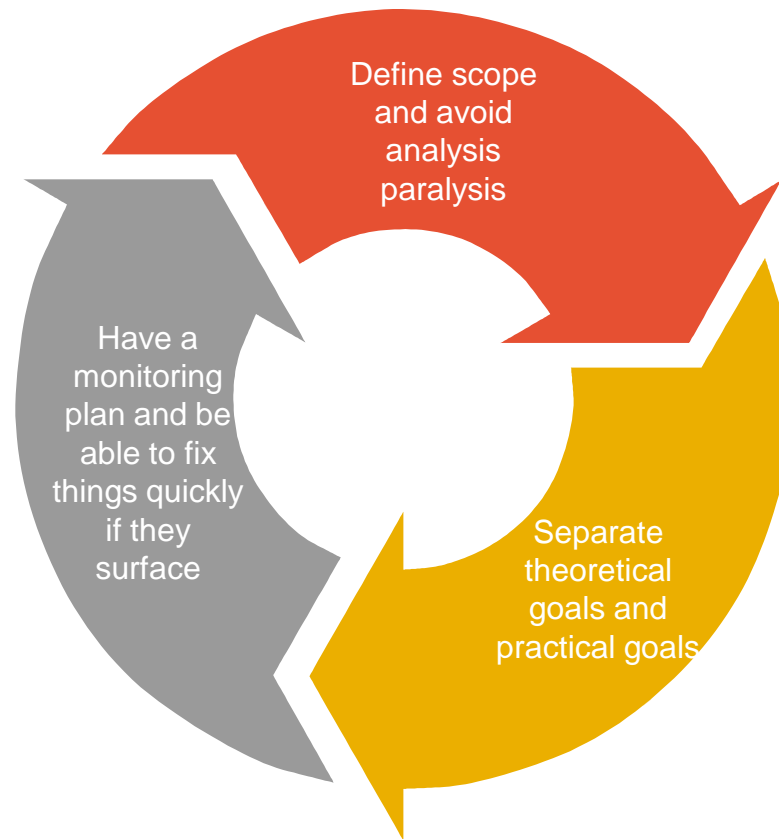
- Be creative. Define what you need from the consultant(s).
- Define who's doing what
- Agree on deliverables at milestone stages
- Make it easy for consultant to do job (e.g., resource availability, navigate procurement process)
- Provide feedback throughout

- *A small caveat: We live within our procurement environments (including the related costs or costs savings). But don't let that process define the project plan.*

Technology and Data

- Don't be *penny wise and pound foolish*
- Invest in good data (GIGO) that benefits whole organization
- There is such a thing as too much data (e.g., 800 geodemographics that are highly correlated)
- Establish data requirements that align with the project goal/scope
 - Make sure data requirements are well-defined (ambiguity costs time and money)
 - Data dictionary can document for each data item: source, valid values, decoding key, how used in rating today, data concerns
- Okay to have imperfect data – use it, but keep improving

Analysis and Monitoring



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