Role of Research in Industry
Assurant, Inc
James R. Grana, Ph.D.
Doctor Sangrado curing John Bull of Repletion
with the kind offices of Young Chyfterpipe & little Boney

Courage John Bull
Courage!!!

Courage Johnny

[Cartoon illustration of a doctor treating a patient with various remedies, including hot water and bloodletting.]
Système de Brossout

etc.

Votre patient a une grave maladie des veines.

Il est en danger de mort.
• Empirical Evidence
• Scientific Method
• Measurement
• Objective Information
• Analysis of Data
Business Decision Making Models

**Instinctive**
- No Data Required
- Subjective
- Not Scientific (Tradition, Anecdote, Folklore and Legends)
- Confidence Level is not Quantifiable
- More Risk

**Information Driven**
- Requires Appropriate Data
- Objective
- Scientific (Evidence-Based)
- Confidence Level is Often Quantifiable
- Less Risk
Assurant, Inc. Structure

ASSURANT Solutions

ASSURANT Health

ASSURANT Employee Benefits

ASSURANT Specialty Property
Assurant, Inc. Products

ASSURANT Solutions

- Credit insurance and debt protection administration
- Warranties and extended service contracts
- Pre-need insurance (funeral/burial)

ASSURANT Employee Benefits

- Voluntary dental insurance
- Group life, disability and dental

ASSURANT Health

- Individual health insurance
- Short-term health insurance
- Voluntary insurance
- Small employer group health insurance
- Health savings accounts

ASSURANT Specialty Property

- Creditor-placed homeowners insurance
- Manufactured housing homeowners insurance
- Renter’s Insurance
- Collateral protection watercraft, motorcycle, motor home,
Infrastructure
Reporting and Tool Development
Advanced Analytics
BDI Human Capital

- 25 Staff Members
- PHD, MS, MA, and MBA Trained Analysts
- FSA / ASA Actuaries
Infrastructure
SAS Server Hardware

- IBM xSeries 460 Server (Machine Type 88722RU)
- 16 Intel Xeon MP CPUs - 3.0 GHz each
- 9.5 GB RAM Memory
- 4.2 TB Disk
- 2.3 TB Archival Storage in Use
SAS BI Server Software

- Base SAS
- SAS/STAT
- SAS/ETS
- SAS/GRAPH
- SAS/IntrNet
- SAS/CONNECT
- SAS/ACCESS Interfaces to
  - Oracle
  - OLE DB (e.g., Microsoft SQL Server)
  - PC Files (Excel, Access, CSV, etc.)

12
External Data - Big Brother is Watching

Age
Lifestyle
Income
Car You Drive
Wine Connoisseur
Height & Weight
Mail Orderer
Occupation
Fitness Guru
Education Levels
Mortgage Rate
Political Party
Suburb Dweller
Language Preference
Marital Status
Home Square Footage
Number of Kids
Camper
Gender
Cell Phone Usage
Glasses vs. Contacts
Sample of External Data Sources

• Acxiom Corporation - provider of demographic and lifestyle variables at a household level.

• InfoUsa - business centric data including Credit.net a real time business lookup

• Claritas, Prime Location- US demographics for individuals and businesses with mapping capabilities.

• TransUnion - individual credit data for analysis

• FMG - Detailed listings and contact information of licensed agents

• Discovery - Detailed listings and contact information of licensed agents

• BLS - Bureau of Labor and Statistics

• Census Bureau - National Census Data
Reporting and Tool Development

- **Actuarial**
  - Loss Ratios
  - Actual to Expected
- **Sales**
  - Geographic
  - Campaign
- **Lapse**
  - Geographic
Advanced Analytics

- Intervention Evaluation
- Predictive Modeling
  - Clinical Interventions
  - Marketing Interventions
  - Risk (at multiple levels of aggregation)
- Compensation Systems
- Staffing Models
- Forecasting
- Risk Assessment and early warning
- Web Analytics
BDI Can Help Answer Questions With Objective Information:

- Who is likely to buy (and what are their characteristics)?
- Who should we target?
- Did we meet our goals?
- Are we getting closer to meeting our goals?
- What markets are hot?
- What are the leading indicators for sales trends?
- What processes are and are not working?
- How do we quantify value, risk, and other phenomenon?
- Did the intervention work? If so, how well did it work?
Central Trends

- Data availability (Still 80% of effort)
- Processing power and storage space
- More methods
  - Traditional Stats (Regressions)
  - Web Analytics
  - Advanced Status (PCA, SEM etc)
- Many more consultants (strong and weak)
- Balance between methodological complexity / accuracy and business understanding / acceptance
Common Methods Used

• Linear Regression
• Logistic Regression
• Auto-Regression
• Cluster Analysis
• Factor Analysis
• Discriminant Analysis

• CHAID
• Survival Analysis
• Hypothesis Testing
• Sampling Design
• Actuarial Models
• Cross Validation
Research Results and Capabilities are Not Fully Leveraged

- $$$ Cost
- Time Cost
- Confidence of Decision Maker
- Complexity
- Ignorance
- Negative Previous Experience
Analytical Approaches

- Outsource
- Centralize Internally
- Decentralize Internally
Internal or External Resources

- Familiarity with Business
- Familiarity with Data
- Familiarity with Methods
- Investment in Staff
- Time Pressures
- Applicability to Other Projects
- Bench Strength
Analytical Paternalism

- Data and software availability to non-core
- Training
- Increased use
- Increased misuse
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