Role of Research in Industry

Assurant, Inc

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ASSURANT
Health

- Empirical Evidence
- Scientific Method
- Measurement
- Objective Information
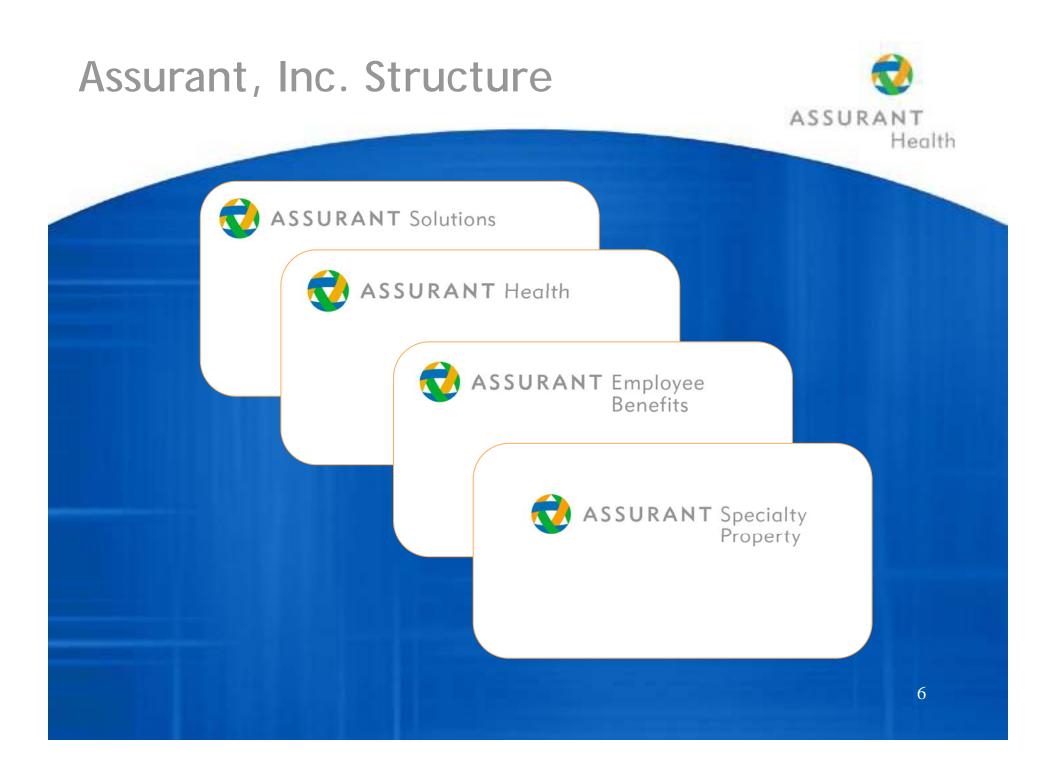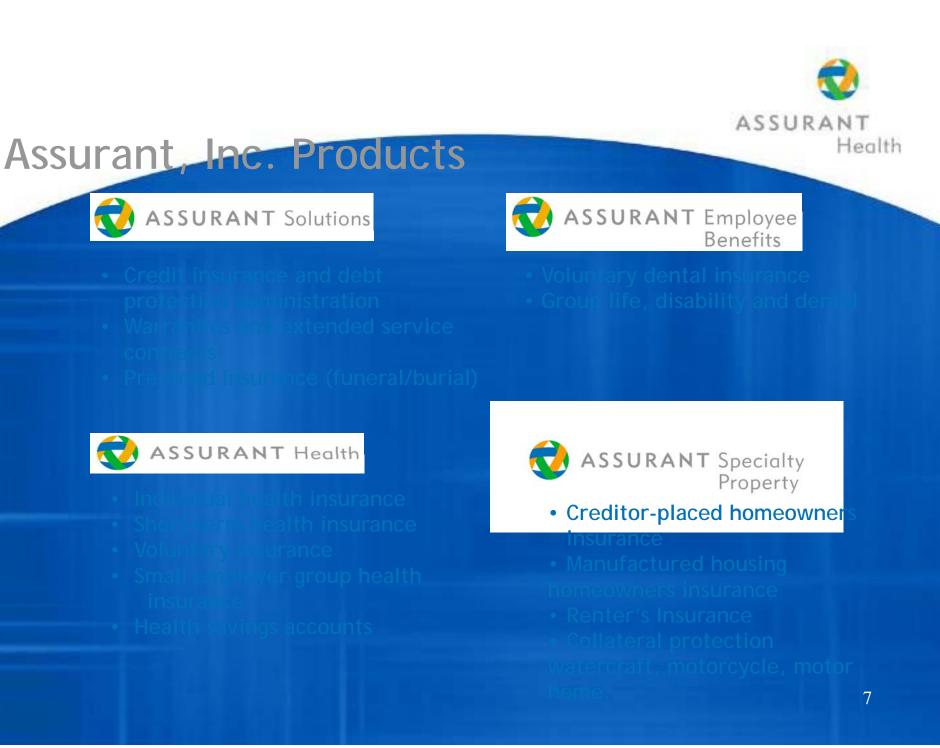- Analysis of Data

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

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Assurant, Inc. Structure

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.
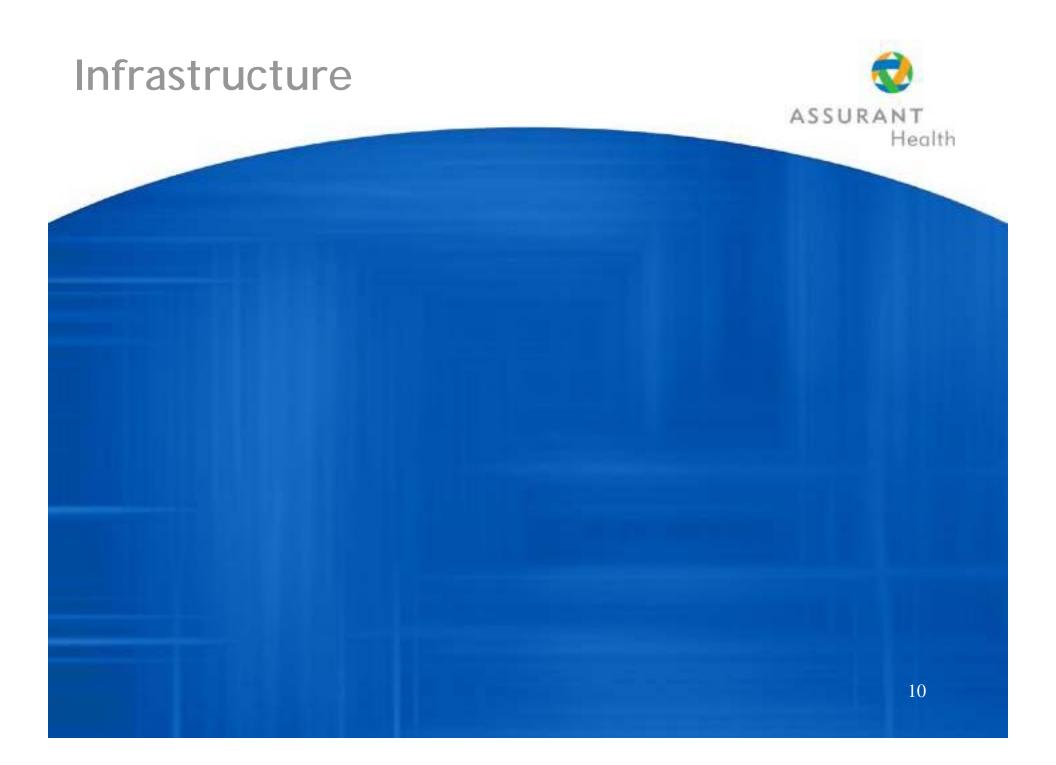
Business Data & Informatics

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]

ASSURANT
Health

Age

Lifestyle Income

Morgage Rate Car You Drive Wine Connoisseur

Political Party Height & Weight Mail Orderer

Suburb Dweller Occupation Fitness Guru

Marital Status Language Preference Education Levels

Camper Home Square Footage Cell Phone Usage

Gender Number of Kids Glasses vs. Contacts

Sample of External Data Sources

- Acxiom Corporation – provider of demographic and lifestyle variab... 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

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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