POWER OF PREDICTION

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YOUR BEHAVIOR IS BEING PREDICTED

By…

• Business
• Government
• Non-profit institutions
• Universities
• And more
AGENDA

• What is it? How does it work?
• Predictive vs. regular analytics
• Industry Examples
• Predictive Analytics in practice at CUNA Mutual
WHAT IS PREDICTIVE ANALYTICS?

- Forward looking
- Using past events to anticipate the future
- Learn from data to make predictions about what each individual will do
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CREATING A PREDICTIVE MODEL

Data from Yesterday ➞ Modeling Process ➞ Predictive Model

Using **yesterday** to predict **today**…
APPLYING MODEL TO GIVE EACH A SCORE

Data from Today

Predictive Models

Prediction

Using today to predict tomorrow…
FIVE STAGES OF ANALYTIC MATURITY

1. Reporting: What happened?
2. Monitor: Happening now?
3. Analysis: Why did it happen?
4. Prediction: Might happen?
5. Optimization: Should happen?

Predictive analytics is inductive – pull out meaningful relationships and patterns.
WHY ARE ANALYTICS BECOMING MORE PREVALENT?

• More operational data is being created and captured because of the use of technology

• More unstructured data is being captured and stored (web transactions, social media data)

• Computing power is up and cost is down significantly
• 95% of relationships can be predicted by analyzing as few as 10 characteristics per profile

• Members on Twitter have shorter relationships (messages allow only up to 140 characters)

• Republicans more willing to connect with Democrats than the reverse
• **Business Objective:** Improve Netflix's ability to predict what movies users would like by 10%.

• **Action:** Analyze customer buying patterns to create a recommendation optimizing tastes and inventory condition.

• **Result:** Grew from $5 million revenue in 1999 to $4.5 billion revenue in 2013 as a result of becoming an analytics competitor.
• **Business Objective:**
  Improve Pandora’s ability to predict what songs users will like in order to increase user session time.

• **Action:**
  *Initiated the Music Genome Project.* This data is combined with user interaction data to create a recommendation engine that users feel they have part in (and they do).

• **Result:**
  *Revenues increased as listener hours grew,* reflecting an improvement in user engagement levels.

“Listeners have a real voice in what gets played. If you love a track and give it a thumbs up, you’ve just increased how likely that track is to play for another listener with similar tastes.”

-Kelly Annekan, Pandora Curator
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DISNEY

• **Business Objective:** Improve customer experience and build customer loyalty by enhancing and personalizing the entire Disney experience.

• **Action:** Initiated the Magic Bands. This band would allow customers to enter your room, enter the park, charge your food and/or merchandise, personalize your ride experience and allow you to book ride times ahead of your visit.

• **Result:** It's thought that the enhanced customer experience will keep customers at the parks longer and in the long term further increase customer loyalty.

Privacy?
**TARGET**

- Mailed coupons using data analytics
- Predicted motherhood
- Reach them as early as possible

Privacy?
Best Buy
7% of its customers accounted for 43% of its sales
Reorganized to concentrate on those customers’ needs

American Express
People with large bills that register a new address in Florida
Greater likelihood to declare bankruptcy

Internal Revenue Service
Walks through its gigabytes of data on taxpayers
Find and ferret out cheaters

NBA
Analyzes the movements of players
Help coaches orchestrate plays and strategies
NEW TRENDS OF PREDICTIVE ANALYTICS

From Traditional Marketing Risk to…

- Crime and Punishment
- Human Resources
- Political Elections
- Life Insurance

- Healthcare
- National Security
- Marriage
- and more…
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PREDICTIVE MODELING FOR CREDIT UNIONS

- Marketing and Acquisition
- Risk Management (FICO)
- Credit Cards
- Customer Retention
- Fraud Detection
- Next Best Contact
- Branch Placement
POWER OF PREDICTION IN PRACTICE
Mailing Members

- Random selection process – mailing top 40% of your member file, expect to yield 40% of total responses

- With predictive model – mailing 40% yields 65% of total responses
PREDICTIVE MODELS IN PRACTICE

Addressable Advertising

• Targeting IP addresses for web advertisements
PREDICTIVE MODELS IN PRACTICE

Determining Staff Needs for Call Center

- Response Volume
- Weekly Call Volume
- Daily Call Volume
- Hourly Call Volume

STAFF NEEDS
Lead Scoring

- More efficient lead contact strategy
- Score and prioritize contacts
- Invest in those most likely to respond; take out those least likely to respond
WHERE DO I START?

1. Define the Strategy
2. Collect the Data
3. Build the Model
4. Deploy the Model
5. Measure the Results

Candidate Variables:
- Prior Customer
- Share Draft Account
- Gender
- Marital Status
- Presence of Children
- Age Group
- Income Level
- Home Ownership
- Pets in Household
- Lifestyle Indicators

Data Categories:
- Predictive Variable
- Non-Predictive Variable
Questions & Discussion

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