



Sports Analytics II

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UNC STOR 390

Data Management

- Different Sources: What are some examples?
 - Quantitative and Qualitative
 - Objective and Subjective
 - Text and Images and Video
- Increasing Number of Sources
- Increasing Volume from Those Sources
- Data Comes Structured and Unstructured
 - Structured is Easier to Analyze
 - Unstructured is More Flexible



Data Management

- Process of Data Management

Standardization



Centralization



Integration

- Standardization

- Purpose: To Make Combining Data Easy
- Know All Sources of Data in the Organization
- Create a Data Inventory: Variable, Description, Format
- Different Departments, but Same Format



Data Management

- Centralization

- Purpose: To Make Acquiring Data Easy
- Stored and Protected in the Same Location
- Accessible by All Decision Makers
- Continual Assessment of Data Quality Via Multiple Eyes

- Integration

- Purpose: To Make Analyzing Data Easy
- Merging/Linking Data According to Unique Identifiers
- Examples: What Insights Could Be Learned?
 - Training Staff Data and Coaching Staff Data
 - Scouting Data and Play-by-Play Data
 - Marketing Data and Salary Data



Analytic Models

- Process of Predictive Analytics
 - Consider the Research Question or Problem
 - Identify or Create Dependent Variables of Interest
 - Incorporate All Information
 - Find Relationships (Linear/Nonlinear)
 - Evaluate Model, Report, and Repeat

Prediction is difficult,
especially about the future.

-Yogi Berra



Analytic Models

- Five Questions for All Analyses – Ben Alamar
 - What was the thought process that led to the analysis?
 - What is the context of the result?
 - How much uncertainty is in the analysis?
 - How does the result inform the decision-making process?
 - How can we further reduce the uncertainty?



What is Sports Analytics?

- Information Systems
 - Mechanisms for Data Delivery
 - Organization and Presentation Matters
 - “One Version of the Truth” – Summarized and Centralized
 - Static: Automatically Generated Reports
 - Interactive: Computer, Phone, Tablet, and Web Applications



Analytics In the Organization

- On-the-Field
 - Coaching
 - Player Development
 - Player Evaluation
- Off-the-Field
 - Sales
 - Marketing
 - Cap Management
 - Hiring
 - Public Relations and Social Media



Analytics Across the Organizations

- Sports Analytics Use Survey (2013)
- Sample of 27 People (NFL, MLB, NBA, EPL)
- How Many Different Sources?
 - 1-2 (6.7%)
 - 3-4 (33.3%)
 - 5-6 (13.3%)
 - >6 (46.71%)



Analytics Across the Organizations

- How Much Data is Centralized?
 - All (31.3%)
 - Most (37.4%)
 - Some (31.3%)
- How Much Data is Dependent on One Person?
 - Some (50.0%)
 - Most (43.7%)
 - All Data Centralized (6.3%)



Analytics Across the Organizations

- Is Data Checked for Errors?
 - Always (31.3%)
 - Usually (37.5%)
 - Sometimes (18.8%)
 - Occasionally (6.1%)
 - Rarely (6.3%)
- How Many Database Programmers are Employed?
 - 0 (37.5%)
 - 1-2 (50.0%)
 - 3-4 (0.0%)
 - >5 (12.5%)



Analytics Across the Organizations

- How Many Statistical Analysts are Employed?
 - 0 (20.0%)
 - 1-2 (66.6%)
 - 3-4 (0.0%)
 - >5 (13.3%)
- Roadblock: Difficulty Identifying Strong Applicant
- Difficulty in Both Hiring and Evaluating



Analytics Across the Organizations

- Clear Process for Hiring/Evaluating Analysts
 - Strongly Agree (13.3%/14.3%)
 - Somewhat Agree (13.3%/14.3%)
 - Neutral (26.7%/28.6%)
 - Somewhat Disagree (13.4%/21.4%)
 - Strongly Disagree (33.3%/21.4%)
- Analytic Resources in Line with Strategic Game Plan
 - Strongly Agree (26.7%)
 - Somewhat Agree (33.3%)
 - Neutral (33.3%)
 - Strongly Disagree (6.7%)



Data Management

- Process

- dafd





Final Inspiration

I am not cocky. I am 95% confident.

- Mahatma Mario