



Sports Analytics III

Produced by Dr. Mario
UNC STOR 390

Industry Past

- 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%)



Industry Past

- 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%)



Industry Past

- 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%)



Industry Past

- 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



Industry Past

- 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%)



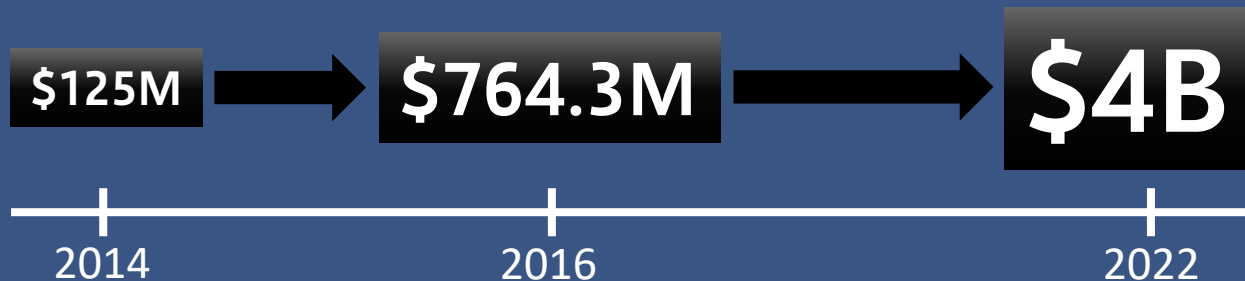
Industry Past

- 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%)



Industry Present

- Article by Russell Karp (ITProPortal.com)
 - Global Sports Market Worth \$600B-\$700B (KPMG)
 - Including All Business Dedicated to Sports \$1.3T
 - Investment in Data Services



Projections in 2022 According to MarketWatch.com



Industry Present

- Modern Applications of Sports Analytics
 - Helping the Team Win
 - Automated Video Analysis (Lincoln City, UK Football)
 - 3D Depth Camera (NBA)
 - Wearable Technology (NBA, NHL)
 - Improving the Fan Experience
 - Analysis of Digital Engagement
 - Sentiment in Social Media
 - Analysis of Fan Behavior in Stadium (New England Patriots)
 - Wireless Internet and Phone Apps
 - Apps Supply Game Analytics, Parking Information, Promotions, and Traffic Information to the Fans (NFL)



Industry Present

- Modern Applications of Sports Analytics
 - Benefiting Other Stakeholders
 - Tracking Fan Behavior Outside the Stadium
 - Telecommunication, Retailers, Payment Providers, Ticket Agencies, and Sponsorships
 - Adapt to Quick Changes in Consumer Behavior
 - Optimizing the Back-Office
 - HR Practices
 - Game Scheduling
 - Supply Chain Management and Logistics
 - Marketing and Promotions
 - Procurement of Goods and Services



Industry Present

- Modern Applications of Sports Analytics
 - Advancing Sports Gambling
 - Supreme Court Ruling Previous Statute Violated 10th Amendment (Murphy v. National Collegiate Athletic Association)
 - States Free to Legislate Gambling
 - Improvement of Gambling Products
 - Data Aggregation and Visualization for Bettors
 - Develop Daily Fantasy Sports
 - Worth Over \$5B According to Nevada Gaming Control Board (NGCB)



Your Industry Future

- Prerequisites by Howard Hamilton (Soccermetrics)
 - Technical Skills
 - Mathematics (Linear Algebra/Probability Essential)
 - Statistics (Frequentist and Bayesian Perspectives)
 - Machine Learning (Supervised and Unsupervised)
 - Programming (R/Python, Data Structures, OOP)
 - Databases
 - Visualization
 - Socials Skills, Ethics, and the Law
 - Knowledgeable About All Aspects of the Sport



Your Industry Future

- Real Jobs (Indeed)
 - Senior Data Engineer for Event Dynamic
 - Automated Ticket Pricing System
 - Bachelors/Masters Quantitative Field
 - Software Development (2 Years) and Python (1 Year)
 - Data Scientist for Legends
 - Consulting for Professional and Collegiate Teams
 - Design and Supervision of Predictive Models
 - Bachelors Degree in Quantitative Field
 - Programming, Data Mining, Statistical Modeling (5 years)
 - SQL and R (>5 years)
 - \$100K - \$500K



Your Industry Future

- Real Jobs (Indeed)
 - Quantitative Analyst for the Philadelphia Eagles
 - Front Office Applications
 - Player Development, Game Prep, Resource Allocation
 - Statistics, Machine Learning, Econometrics
 - Data Scientist for Zelus Analytics
 - Help Professional Teams Win Championships
 - Develop, Validate, and Automate Models
 - Attend Conferences and Review Research
 - Bachelors in Quantitative Field
 - R/Python/SQL
 - \$80K - \$110K



Your Industry Future

- Real Jobs (Indeed)
 - Data Scientist for the NBA
 - Referee Decision Making, Rule Changes, and Game Play
 - Exploratory Analyses of New Data Sources
 - Presentation and Communication of Statistical Findings
 - R/Python/Regression/Machine Learning
 - Data Visualization Software Like Shiny/Tableau
 - Bachelors in Quantitative Discipline Required
 - Sports Research Manager for Turnkey Intelligence
 - Manage Teams of Data Collectors for Consulting Projects
 - Leadership Skills
 - R/SAS Experience is a Plus



Your Industry Future

- Real Jobs (Indeed)
 - Business Analytics Data Scientist for Carolina Panthers
 - Lead Data Science Initiatives and Marketing Strategy
 - Analytic Projects Using Python/SQL/Visualization
 - Bachelors Degree and 5 Years Experience
 - Masters Degree in Statistics or Economics Preferred
 - Data Engineer for Disney Streaming Services
 - Includes ESPN+, MLB.TV, and NHL.TV
 - Collect, Analyze, and Distribute Data for Transparency
 - Data Inventory and Data Cleaning
 - Python (2 to 3 Years)/Spark/Cloud-hosted Databases



Your Industry Future

- Real Jobs (Indeed)
 - Business Analytics Intern for Arizona Coyotes
 - Assist Analytics Team with Statistical Projects
 - Upper Level Undergrad or Graduate Student
 - R/Python/SQL/Tableau/Microsoft Dynamics
 - Research Analyst for Bleacher Report
 - Analyze Ad Effectiveness
 - Mine, Analyze, and Deliver Insights from Campaigns
 - Quantitative/Qualitative Research Experience (1-2 Years)
 - R/Tableau/SPSS/SQL
 - Analytical, Editorial, Communication skills



Your Industry Future

- Real Jobs (Indeed)
 - Sports Data Scientist for Awesomo.com
 - Track Performance of Models for Fantasy Sports
 - Development of New Fantasy Sports Products
 - Develop New Statistics to Predict Performance
 - Excel and Linear Regressions
 - \$50K-\$100K
 - Senior Manager in Data Science for FanDuel
 - Coach Team of Data Scientists for Company Projects
 - Masters/PhD in Quantitative Field
 - Machine Learning/Bayesian Statistics/Time Series Methods
 - Python/SQL/AWS/GitHub
 - Data Science Team (5 Years)



Your Industry Future

- Conferences

- September

- Football Analytics and Performance Summit in Vienna
 - RIT Sports Analytics Conference in Rochester, NY
 - New England Symposium on Statistics in Sports in Cambridge, MA

- October

- Great Lakes Analytics Conference in Stevens Point, WI
 - Texas Sports Analytics Conference in Dallas
 - UConn Sports Analytics Conference in Storrs, CT
 - Japan Sports Analytics Conference in Tokyo

Compiled by statsheetstuffers.com and sportsanalyticsconferences.com



Your Industry Future

- Conferences

- November

- Carnegie Mellon Sports Analytics Conference in Pittsburgh, PA
 - Ottawa Hockey Analytics at Carleton in Ottawa
 - Midwest Sports Analytics Meeting in Pelle, IA
 - United Kingdom Sports Analytics Conference in London

- December

- Midwest Sports Biometrics Conference in San Francisco, CA

- March

- MIT Sloan Sports Analytics Conference in Boston, MA

Compiled by statsheetstuffers.com and sportsanalyticsconferences.com





Final Inspiration

Always Be Scoring.

- Mike Giannetto