
# DATA SCIENCE ASSESSMENT

Strategy & Execution

# Analytics taxonomy development

- Maturity levels are based on the following criteria
  - Complexity of data, methods, & algorithms
  - Degree of insight (descriptive to prescriptive)
  - Traditional approaches vs. deep learning (cognitive sciences)
- Taxonomy definitions, examples, and scoring
- Advanced analytics / data science aligns with the examples closer to the bottom half and right-hand side

| Analytics Maturity Model: Capabilities | Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|---|
| **DESCRIPTIVE** *What happened?* | Ad-hoc reporting through citizen data science techniques | Interactive dashboards created on local computer without coding | Reporting that requires significant data integration from disparate sources | Complex data wrangling & sample projection for generalization |
| **DIAGNOSTIC** *Why did it happen?* | Intuition-based | Basic visualizations | Models without hold-out sample | Evidence-based diagnostics such as A/B Testing |
| **DISCOVERY** *Proactive insight generation through hypothesis testing* | Visual data exploration | Exploratory analysis & Data mining | Augmented with disparate data sources | Augmented with curated data |
| **PREDICT / PRESCRIBE** *What will happen & what should happen?* | Intuition-based | Models with hold-out sample | Augmented with ML / AI | Evidence-based testing & automated tuning |
| **COGNITIVE** *Vision & audio data processing* | Leveraging pre-existing cognitive apps (e.g., word clouds) | Experimental lab trained neural network models | Moderately accurate field trained neural network models | Highly accurate field trained neural network models |

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