BIG DATA ANALYTICS
Evolving Toward Analytics 3.0
@guidooswald
SAY BIG DATA

ONE MORE TIME
Analytics 3.0?
Keeping Up with the Quants: Your Guide to Understanding and Using Analytics

“All industries will be affected by Analytics 3.0. The benefits from effectively leveraging big data, embedding data into decision making and truly becoming an analytical competitor will apply to any firm in any industry.”
**1.0 Traditional Analytics**
- Primarily descriptive analytics and reporting
- Internally sourced, relatively small, structured data
- "Back room" teams of analysts
- Internal decision support

**2.0 Big Data**
- Complex, large, unstructured data sources
- New analytical and computational capabilities
- "Data Scientists" emerge
- Online firms create database-based products and services
1.0 Traditional Analytics
- Primarily descriptive analytics and reporting
- Internally sourced, relatively small, structured data
- "Back room" teams of analysts
- Internal decision support

2.0 Big Data
- Complex, large, unstructured data sources
- New analytical and computational capabilities
- "Data Scientists" emerge
- Online firms create data-based products and services

3.0 Fast Business Impact for the Data Economy
- Seamless blend of traditional analytics and big data
- Analytics integral to running the business; strategic asset
- Rapid and agile insight delivery
- Analytical tools available at point of decision
- Cultural evolution embeds analytics into decision and operational processes

Today
ANALYTICS 3.0  TYPES OF ANALYTICS

Descriptive: report on the past. BI Reporting

Predictive: use models based on past data to predict the future

Prescriptive: use models to specify optimal behaviors and actions.
ANALYTICS 3.0

ANALYTICAL DECISION MAKING

Competitive Advantage

What happened?

Standard reports
How many, how often, where?

Ad hoc reports
Where exactly is the problem?

Query drill down
What actions are needed?

Alerts
What if these trends continue?

Statistical Analysis
Why is this happening?

Forecast
What will happen next?

Predict
What is the best that can happen?

Optimize

Raw data

Clean data

Standard reports

Ad hoc reports

Query drill down

Alerts

Degree of Intelligence
Democratization of Analytics
DELIVERS A SINGLE SOLUTION FOR FASTER, SMARTER DECISIONS

DATA BUILDER
- Join data from multiple sources
- Create calculated and derived columns
- Load data

ADMINISTRATOR
- Monitor SAS® LASR™ Analytic server
- Load/unload data
- Manage security

EXPLORER
- Perform ad-hoc analysis and data discovery
- Apply advanced analytics

DESIGNER
- Create dashboard style reports for web or mobile

MOBILE BI
- Native iOS and Android applications that deliver interactive reports

SAS® LASR™ ANALYTIC SERVER
- Home page for all users with guest access
- Role based views
- Navigation to varied end user actions
  - Ad-Hoc Data Exploration
  - Report Creation
  - Report Viewing
- Administration tasks
  - Data Preparation
  - System Administration and Monitoring
  - Theme Design
- User content management
  - Recent, favorites, collections
  - Search
- Collaboration via commenting
- Search for tables
- Join and append tables
- Import Information Maps
- Create computed columns (full expression builder)
- Filter columns and rows (aggregated data or not)
- Load table, spreadsheet, or star schema in memory
- Quick access to Twitter feeds and Oracle tables
- Allow pre and post-processing steps
- Schedule query execution
- Monitor Environment
  - Resources (CPU, I/O, Memory)
  - Processes (user session focused)
  - Mobile device logging history
- Manage Server and Data
  - Start/stop in-memory server
  - Load/unload tables to/from memory and local data storage
  - Register tables in metadata
- Manage Security
  - Table and row level security
  - Mobile device blacklisting and whitelisting
- Manage Alerts
- Visual data exploration and discovery to find relationships, trends, discrepancies etc.
- Auto-charting, visual filtering, etc.
- Various Visuals: Cross tabs, Bar-Charts, Line Charts, Scatter Plots, Bubble Plots, Geo Maps, Box Plots, Heat Maps, Network Diagrams, Word Cloud, and others
- Consumable Analytics: Correlation (relationships), Regression (linear, quadratic, cubic, p-spline, best fit), Forecasting (multiple algorithms), Scenario Analysis, Decision Tree, Text Analytics, Summary statistics
- Comments in the exploration and visualization levels
- Self-service Hierarchies: Drill down, up, and across siblings
- Selection and brushing modes for discovering relationships
- Quickly derive relative time calculations and create new calculated columns via expression builder
- Save and share as exploration, report, PDF, email
- Export data to CSV document format
Interface for designing reports and dashboards
Leverage existing reports and data to create reports
Use multiple data sources
Large number of visualization options with ability to create custom graphs
WYSIWYG designer with integrated report viewer
Precision and tiled layout
Report object interactions and prompts
Comments in the report and object (charts and tables) levels
Self-service Hierarchies: Drill down, up, and across siblings
Quickly derive relative time calculations and create new calculated columns via expression builder
Print, share report via email, setup alerts
Export data to Excel and CSV/TSV document formats
“Adaptive presentation” - build once, access on computer browser, mobile device, MS Office suite and SharePoint
- Visualize reports previously created
  - Multiple data sources
  - Interactions and prompts
  - Hierarchy navigation
- Collaboration via commenting
- Print, subscribe to alerts
- Export data to Excel and CSV/TSV document formats
- Leverage existing SAS security and allow guest access
Native apps for iPad and Android tablets
Highly visual and interactive: filtering, highlighting, drill-down, zooming, etc.
Collaboration via commenting
Subscribe to alerts
Share via email with annotation
Offline capabilities
Leverage existing SAS security and allow guest access
Additional security focused on support for device encryption, remote wipe, blacklisting, whitelisting, SSL connections, mobile tethering, application passcode, etc.
Was macht einen guten Data Scientist aus?


Deutschsprachige Studie Data Scientist:


http://www.sas.com/de_de/events/14/sas-data-scientist/ausbildungsprogramm.html
BIG DATA ANALYTICS
EVOLVING TOWARD ANALYTICS 3.0