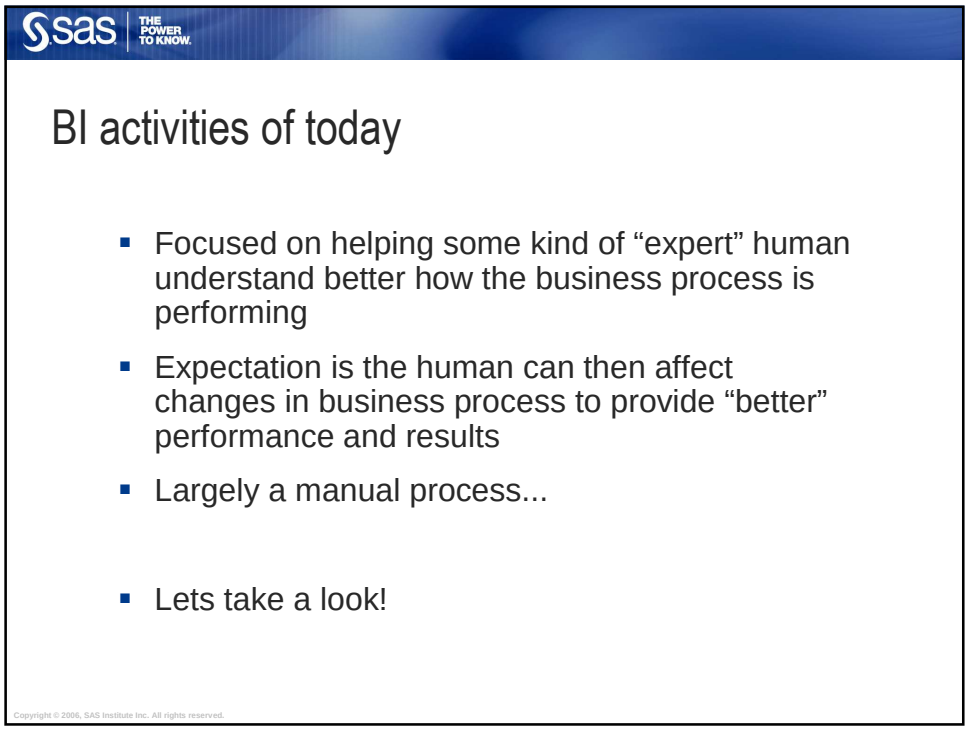


Typical BI Today

- Aimed at gaining Process Performance Insight through Analysing Report Style Data
- Concerned with Reports
  - Formatting, Navigation, Managing
- Struggles with Data
  - Formats, Quality, Timeliness, Meaning
- Predictive Analytics gives much better Insight than eyeballing Reports

New Directions

- Address the Timeliness Question
- Focus Shifts from Data to Processes

IDC Studie 2006, die Versicherungsbranche in Deutschland

6. Bei Effizienzsteigerungen unterstützen

“Die Automatisierung der Geschäftprozesse steht dabei ganz oben auf der Prioritätenliste der Versicherer. Insbesondere das Straight-Through-Processing der versicherungspezifischen Prozesse, wie beispielsweise Schadenmanagment, werden zunehemend an Bedeutung gewinnen”

New Directions

- Address the Timeliness Ques
- Focus Shifts from Dat
- Add Value to th y:-
- Making

  - tecting Fraud, Cost

perators

g, Case/Exception Handling, Alerts

proving Processes

On the Fly Modification e.g. capacity, routing, selection

To do this right you need really robust Analytics and Governance

Managing the Model Lifecycle Process

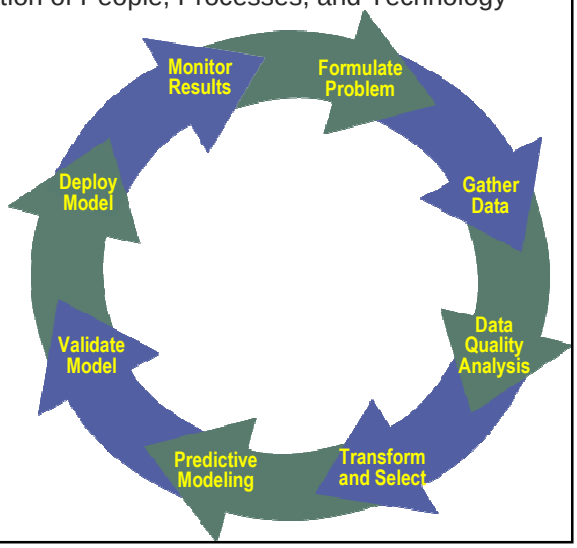
Integration of People, Processes, and Technology

CxO
- Defines CSF
- Evaluates Success

Data Manager
- Data Preparation
- Deployment Services
- Report Administration

Analyst
- Exploratory Analysis
- Descriptive Segmentation
- Predictive Modeling

Business Manager
- Manages Campaigns
- Domain Expert
- Evaluates Processes & ROI



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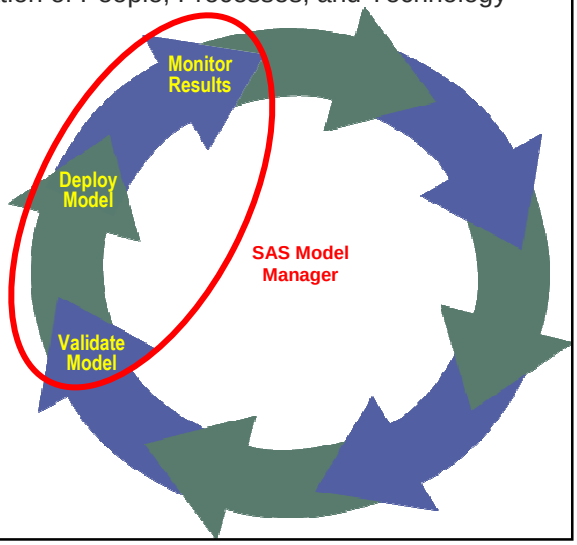
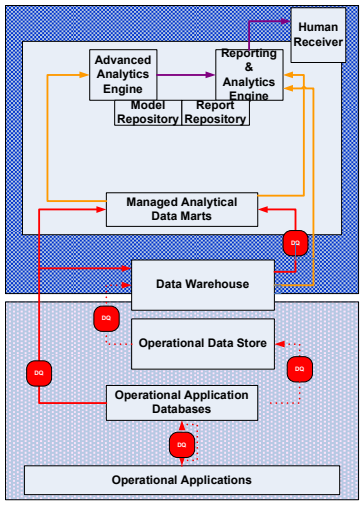


Some BI Styles

- Classic BI
- Classic BI with Data Quality
- BI with Feedback Loops
- Real Time BI
- Business Activity Monitoring

Classic BI Architecture with Data Quality

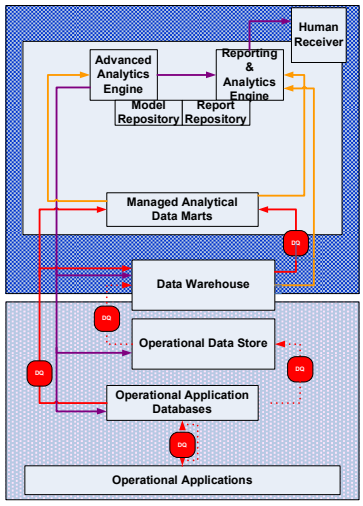
- Data Quality added
- Various Possibilities in Combination
- Real Time DQ in Operational Applications
- DQ added in Flows to EDW or to Marts
- One Set of Rules



SAS Visual BI and BI Dashboard

BI Architecture with Feedback

- Results fed back into Operational Systems
- Integration at the Data level
- Useful for Cyclical Applications eg Planning
- Results of Forecasts, Cost Models or Optimisations
- Users see same workflow but with better recommendations



BI Architecture with Feedback – An Example

- Food Manufacturer – Bacon, Sausages, Pies, Pate
- Bi-Weekly Buying Cycle for Raw Materials (Pigs)
- Factors in Buying Decisions
  - Price on the Market
  - Breeds of Pigs
  - Processing of Pigs
  - Product Demand
  - Reduce Wastage
- Optimisation Problem
  - How many of which kind and which processing to employ ?

BI Architecture with Feedback – An Example

- Regular Data Extraction into a Data Mart
- Optimisation Run Completed for next Cycle
- Results fed back into R/3 System
- Users Carry out Normal Buying Process but ….

…. with optimised amounts recommended

- Specialists Write the Optimisation code
- Business Users get the Benefit without “seeing” BI
- Savings on every cycle compared with “do nothing”

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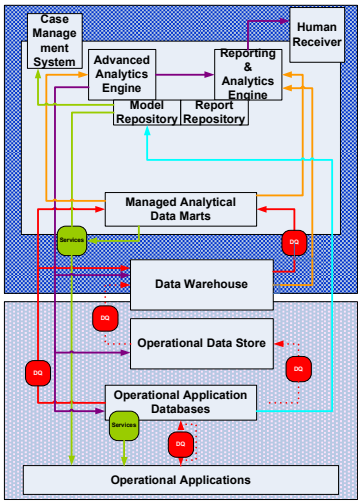
Real Time BI Architecture

- Integration at a Service Level between Operational Application and Model
- Real Time Scoring or Decisioning
- Must Satisfy Throughput Requirements
- Useful when Score on Demand is required
- May need to "marshall" data from operational system



Real Time BI Architecture – An Example

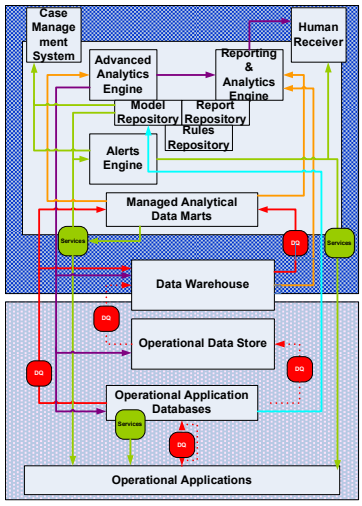
- Retail Bank with Credit Cards
- Wish to reduce Fraud Costs by detecting potential frauds at swipe time
- Mainframe CICS system for Credit Card transaction processing
- Decision is Yes, No or Refer
- Decision must be quick – a few Milliseconds
- Decision must also look at data which has not hit the DW yet

Real Time BI Architecture – An Example

- Data Mining to Build a Model to Detect Fraudulent Transactions
- Custom Changes in CICS System to send request for approval/rejection
- Use of Message Queuing to communicate to the decision system
- Realtime Query of data in Operational System as well as use of model to make decision
- If “Refer” then pass on to Case Management System for Human processing

BI with Business Activity Monitoring

- Events flow out of Operational Systems
- Combinations of Events are Analysed
- Alerts Generated after Analysis (Rules)
- Alerts Return to Operational System
- Alerts also to Human Receiver



BI with Business Activity Monitoring – An Example

- A Post and Parcels Organisation – Logistics
- Wish to ensure Optimal Resource and Route Planning for Parcel Delivery
- Automated Sorting Office records movement of each package (puts a message on a queue)
- Need to allocate resources and plan for each shift based on volumes of activity
- Need volume information in time to make allocations – not the next day !

BI with Business Activity Monitoring – An Example

- Listen to Message Queue to fill analysis Data Mart
- Data Mart always up to date with Volumes
- Just before Shift, routes and resources are Allocated based on Volumes and Destinations
- Rules Determine Allocations

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So where is this all going?

What is the future of BI?

Much of BI will be "invisible" to the user as it will just appear as a part of their day-to-day workflows

The Future of BI at SAS is simple.... continue to enhance the technology platform to support all styles of BI ...

To help organizations make better, faster decisions