

Unique Challenges of Bringing Quality Tracking to a Service Organization

...Before and After Six Sigma

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Unique Challenges of Bringing Quality Tracking to a Service Organization

My Work Function:

- Financial Analysis & Planning
 - Forecasting, Staffing, and Modeling
 - Quality Assurance / Control
-
- 20 years ago Six Sigma was mostly for Engineering

Six Sigma in Service

- **Disclaimer: The problems and solutions are based on my own experience.**
- **Six Sigma is:**
 - **Generally Isolated**
 - **Not Prioritized**
 - **Six Sigma = math**
 - **The A.I.D Problem**

The A.I.D. Problem

DMAIC / DMADV

DEFINE

MEASURE

ANALYZE

IMPROVE / DESIGN

CONTROL / VERIFY

The A.I.D. Problem

DEFINE

MEASURE

ANALYZE

IMPROVE / **D**ESIGN

CONTROL / VERIFY

The Steps of Bringing Quality Tracking to a Service Organization

Data Mapping

Storage (Data Warehouse)

Customer Response Mapping

Six Sigma

COMMUNICATION

Data Mapping



Knowing & Understanding the Data

Corporate Data Mapping

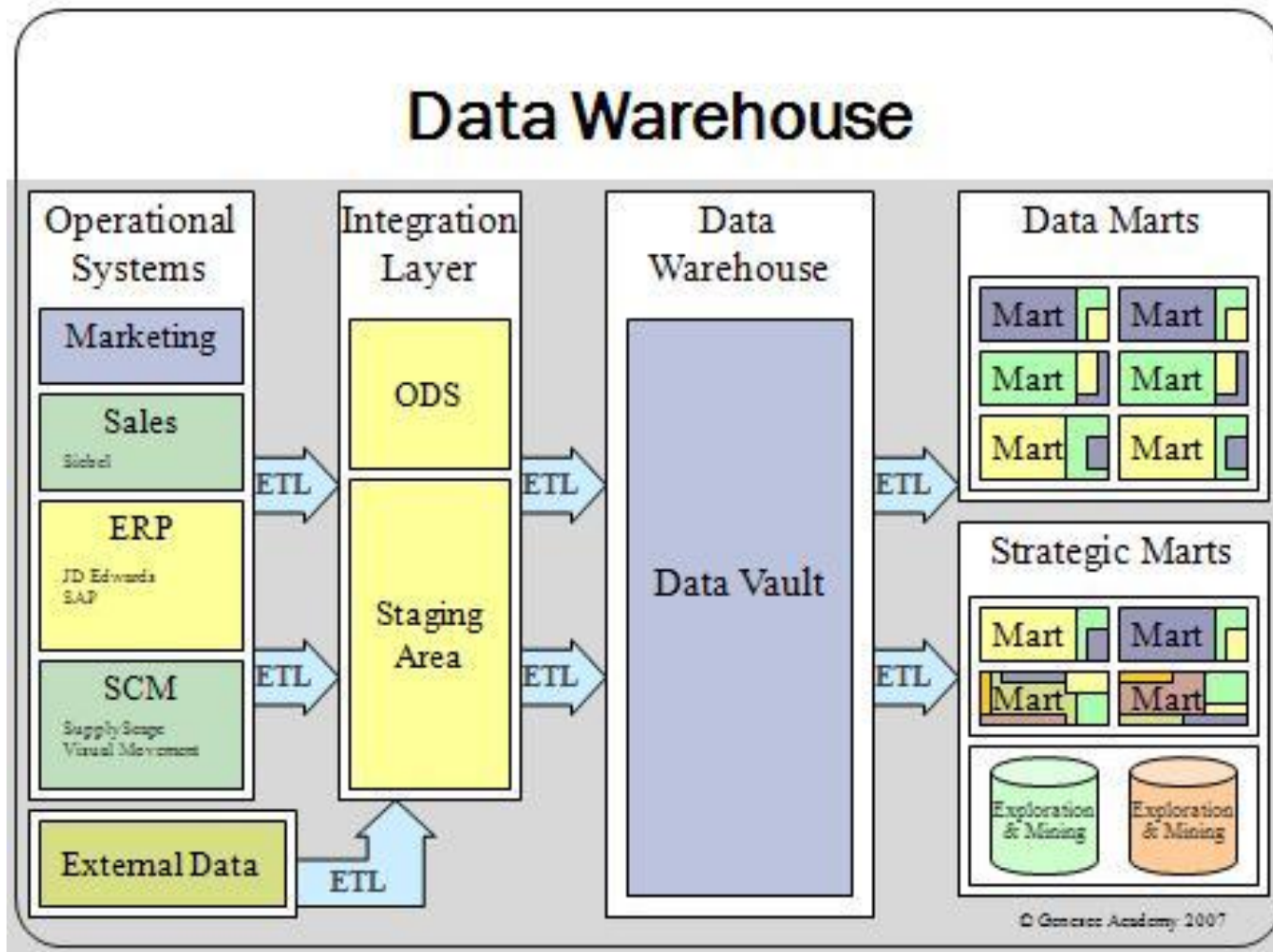
- Close Internal (Own Department)
- Distant Internal (Other Departments)
- Close External (Corporate)
- Distant External (Outsourced or International)
- External – Non–Generated (Benchmarking, government)
 - <http://research.stlouisfed.org/fred2/>

Steps to Create a Data Warehouse

Corporate Data Mapping: Close Internal

- What data sources (database, report from the web, excel)
- Attempt to get data from the initial data source (avoid pulling data from the web, excel spreadsheets etc.).
- What type of data (identification)
- How is it currently used (purpose)
- Who is currently using the data (audience)
- Who is currently owning the data (manager)

What is a Data Warehouse



What is a Data Warehouse

- Centralize all data that can be used for information in one location.
- Data should be audited.
- Data should allow the same timespan.
- Data should have all calculations finalized or defined.
- Data should be standardized or have support tables that allow for standardization.
- It should be scalable.
- It Should address the users' needs.

Steps to Create a Data Warehouse

Data Mapping /Discovery

- **Owner:**
 - get access to data
 - ask questions about format and usage
- **Users:**
 - how do they use the data
 - what is missing (important!)
 - timeframe needed
- **Purpose / Definition:**
 - type of tables
 - understand the fields
- **Stand-alone or composite:**
 - is the data we need in one table, or
 - do we need to combine tables to get the result

Steps to Create a Data Warehouse

- Data Cleaning
 - Purpose of Data
 - Weed Out “Waste”
 - Determine Unique Links (Database Keys)
 - Determine Time Frame
- Determine Calculated Fields
 - Can be done at extraction
 - Danger is that people may use different formulas

Customer Response Mapping

Mapping Variables to Business Outputs

Develop meaningful questions for customer input.

“How was the overall service with XYZ corp. today?”

Define all variables affecting a customer response outcome.

ASA, AHT, Staffing Level, # Transfers

Identify best practices for how to influence the variables.

Additional Overtime, expected daily result

Develop a methodology for analyzing the past data.

Regression, Binomial studies, etc.

Develop a real-time model / early warning report to influence the variables.

Develop a score card to monitor and benchmark the results.

Six Sigma

Define: You know all or most the variables that impacts customer service.

Measure: The data is defined, reports (ad hoc and early warning) are already in place.

Analyze: Focus on specialized analysis as most of the general analysis is ongoing.

Improve: Strong solutions that can be verified → Controlled iterations.

Communication

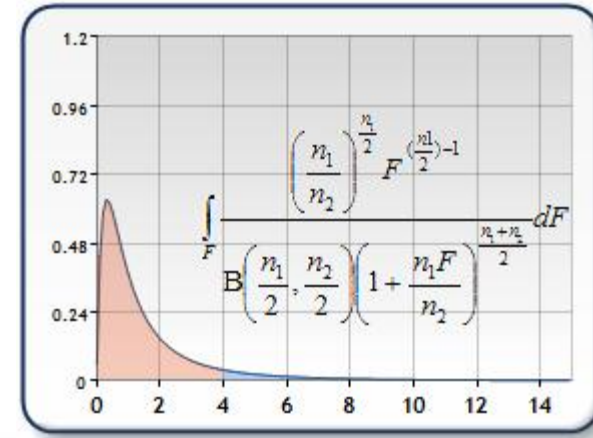
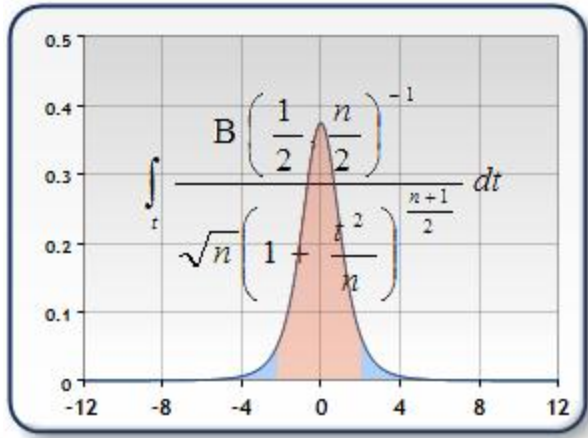
Quality is for Everybody!

$$Y = a + bx$$

$$b = \frac{n \sum (xy) - \sum x \sum y}{n \sum (x^2) - (\sum x)^2}$$

$$a = \frac{\sum y - b \sum x}{n}$$

$$r = \frac{n \sum (xy) - \sum x \sum y}{\sqrt{[n \sum (x^2) - (\sum x)^2][n \sum (y^2) - (\sum y)^2]}}$$



In Closing...

The Mad Hatter:

“Have I gone mad?”

Alice:

“I am afraid so. You’re entirely bonkers. But I’ll tell you a secret. All the best people are.”

