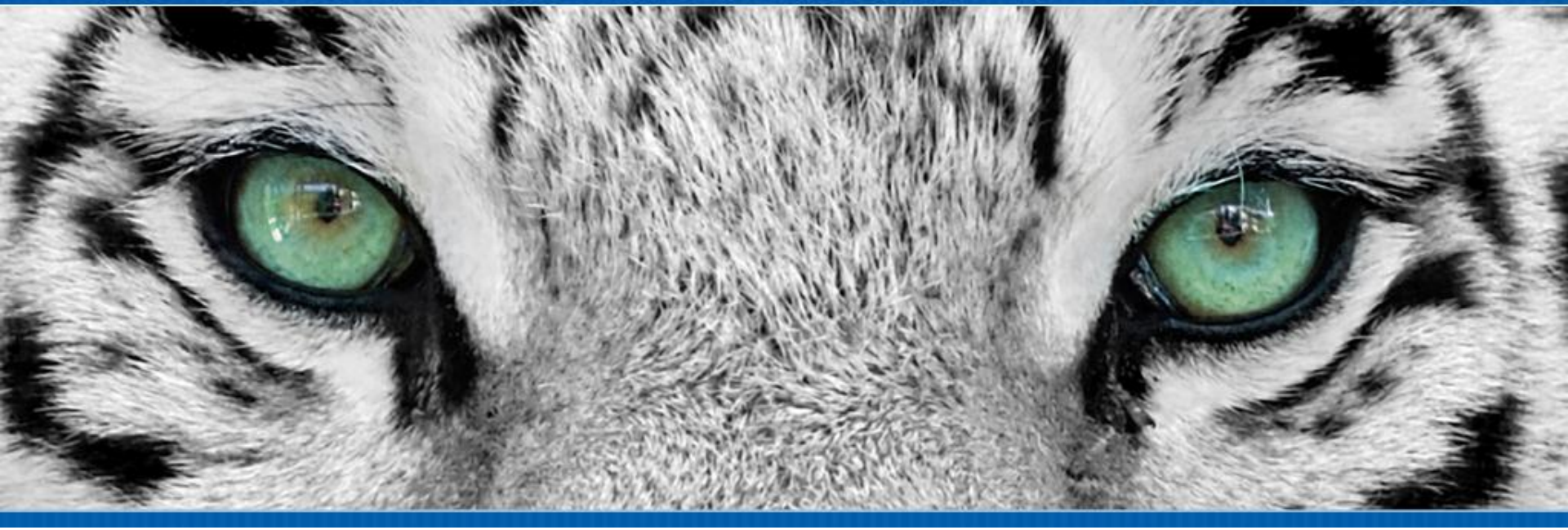
Insights. Innovation. Impact.



INSTRUMENT-LEVEL MULTI-DIMENSIONAL DATABASES:
Flexible, dynamic tools for measuring, monitoring, & driving performance

AMIfs Profitability, Performance & Risk Conference

April 26th, 2012

ROLTA

- Introduction
- Business Intelligence Systems
- Instrument-Level Multi-Dimensional Databases
- Case Studies / Examples
- Keys to Success

AGENDA

ROLTA

INTRODUCTION

Dick Coulter – Director Financial Services

- Senior Performance Management Consultant with extensive Planning & Forecasting, Performance Management, Risk Management, Operations Management, and Process Analysis & Design experience
- 26 years in Banking Industry at Bank One, SunTrust and Key Corp
  - Managing Director, Performance Analysis & Improvement
  - Senior Operational Risk Manager – Retail Banking (Branch Banking, Consumer Lending, Business Banking, Private Banking, Insurance)
  - Strategic Financial Officer – Retail Banking
  - National Director, Personal Trust Account Administration
  - Managing Director, Process Analysis & Design – Investment Management & Trust
  - Senior Operations Executive (Deposit Operations, Consumer & Commercial Loan Operations, Personal & Institutional Trust Operations, Day One/Day Two Processing)
- Significant involvement with:
  - Business strategy development, Distribution Planning, Sales Goal Setting, Incentive Plan Design, Staffing Models, Statistical Process Control, Mergers & Acquisitions, Basel II / Operational Risk Management, Balanced Scorecards, Performance Dashboards

ROLTA

BUSINESS INTELLIGENCE SYSTEMS

What is Business Intelligence?

"A user-centered process of exploring data, data relationships and trends, thereby helping to improve overall decision making."

Gartner Group

"Computer-based techniques used in identifying, extracting, and analyzing business data…to provide historical, current and predictive views of business operations.

Wikipedia

"a class of solutions that assimilate data into information and institute the standards, controls, and processes necessary for reporting, predicting, and capitalizing on business and economic events."

*Some Smart Guy**

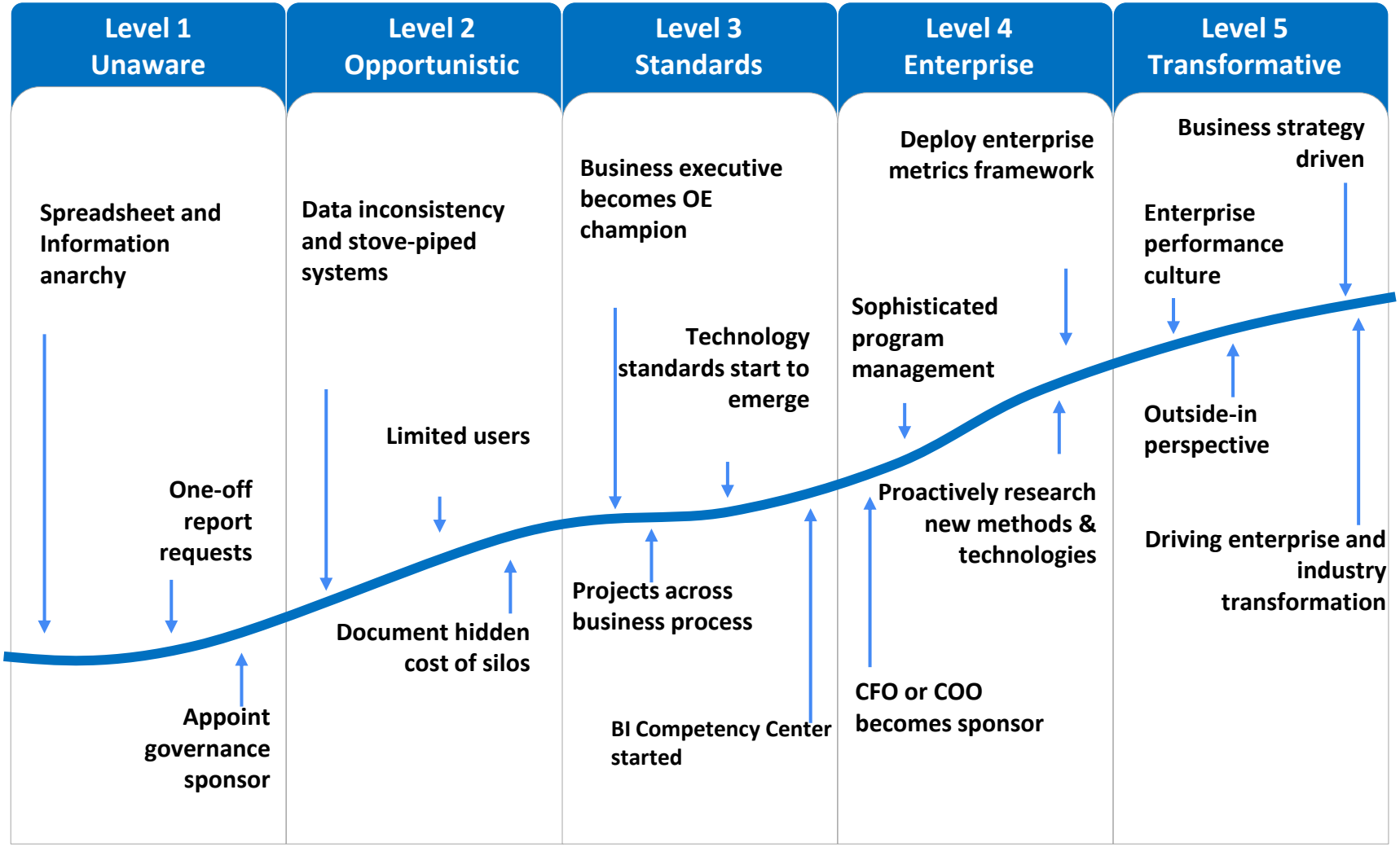
Trends Impacting BI & Analytics

- Economic and market conditions
- Globalism
- Competitive pressure
- Knowledge economy
- Regulatory requirements
- Shareholder scrutiny
- Speed of the information cycle
- Big Data
- Availability of tools and technology
- Aging workforce
- Organizational capabilities

Bar for Analytics has definitely risen!

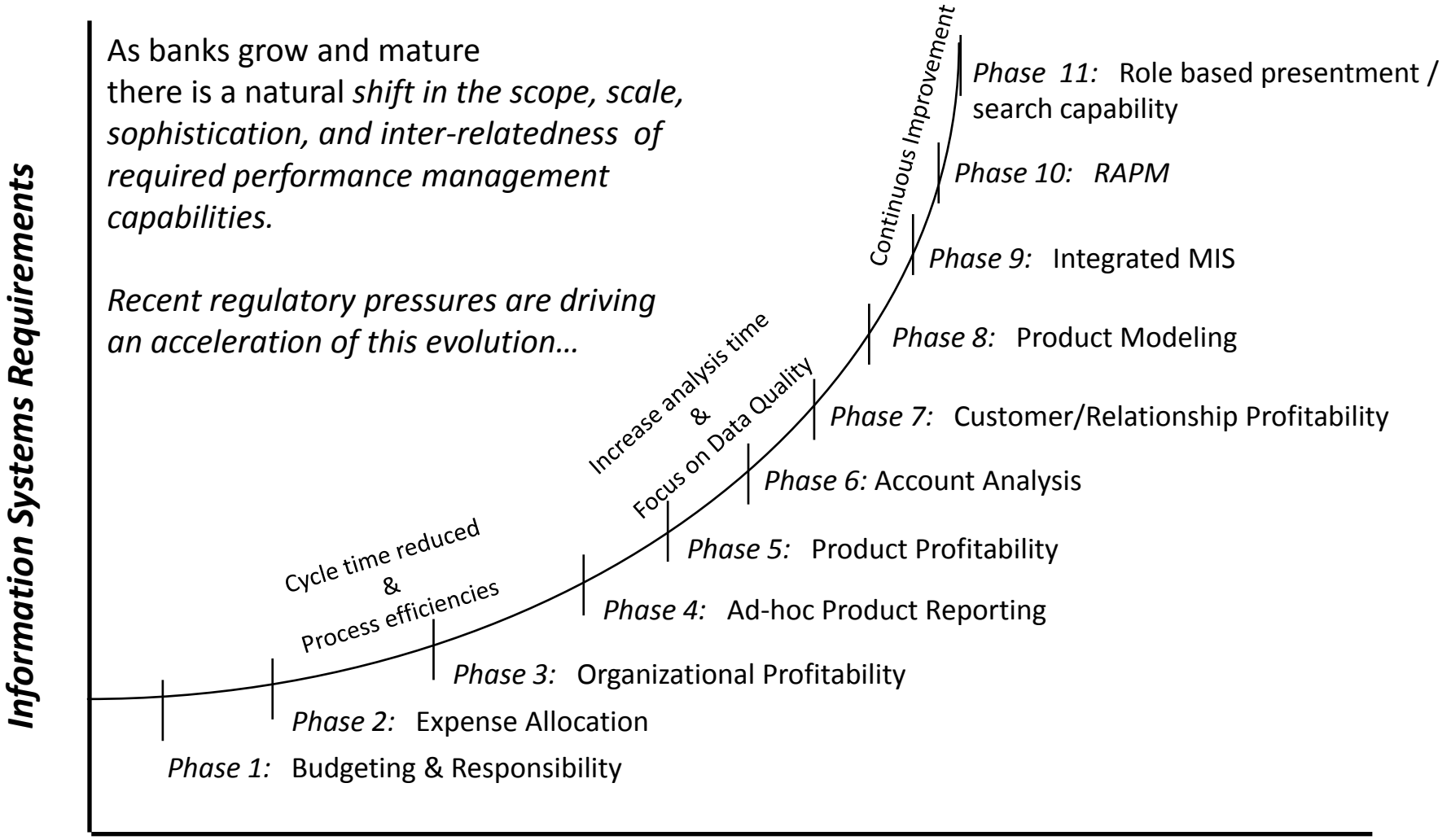
The Goal: Business Intelligence

SOURCE: Gartner (August 2010)



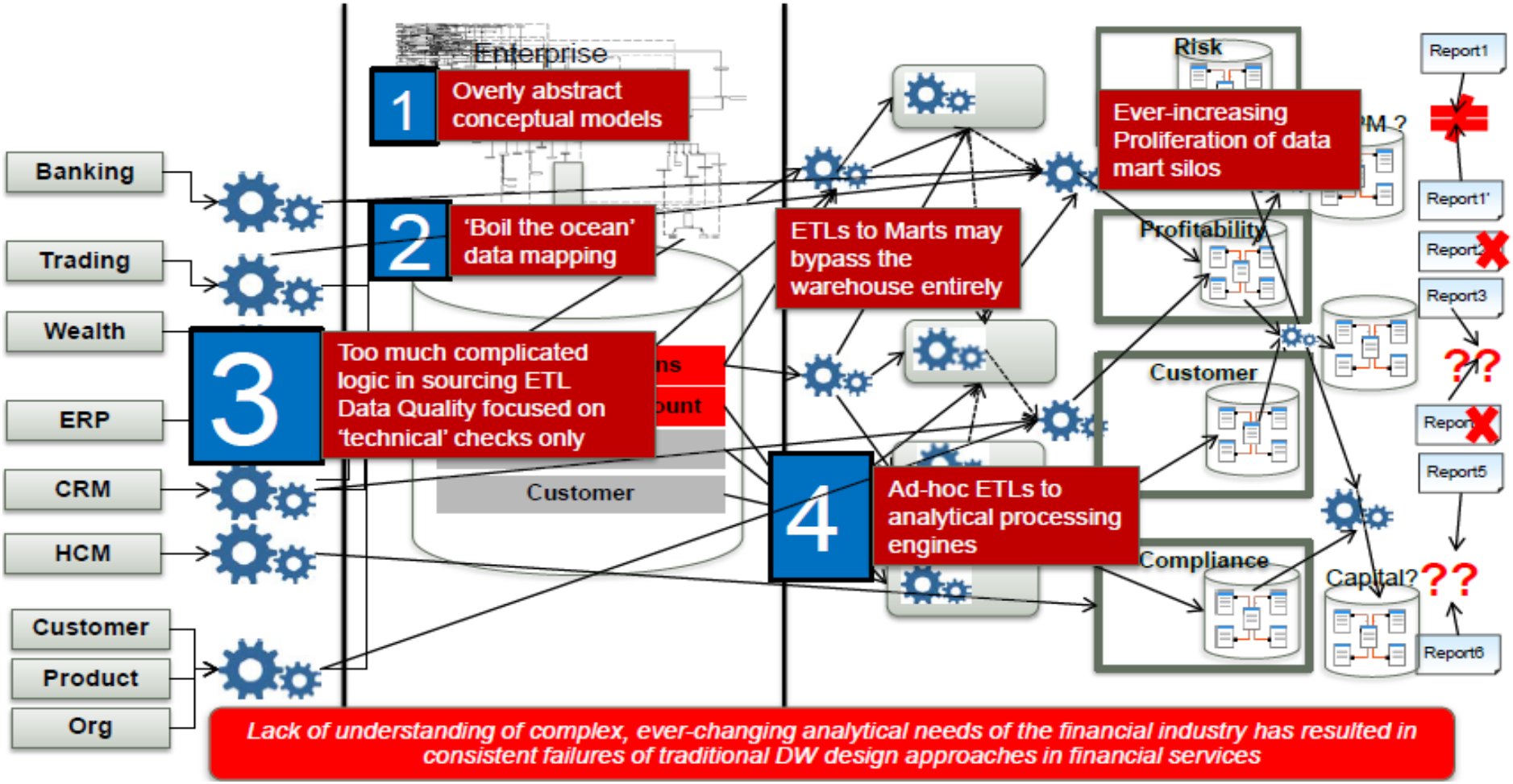
Goal to make everyone responsible for Performance!

Performance Measurement Continuum



Problem Statement

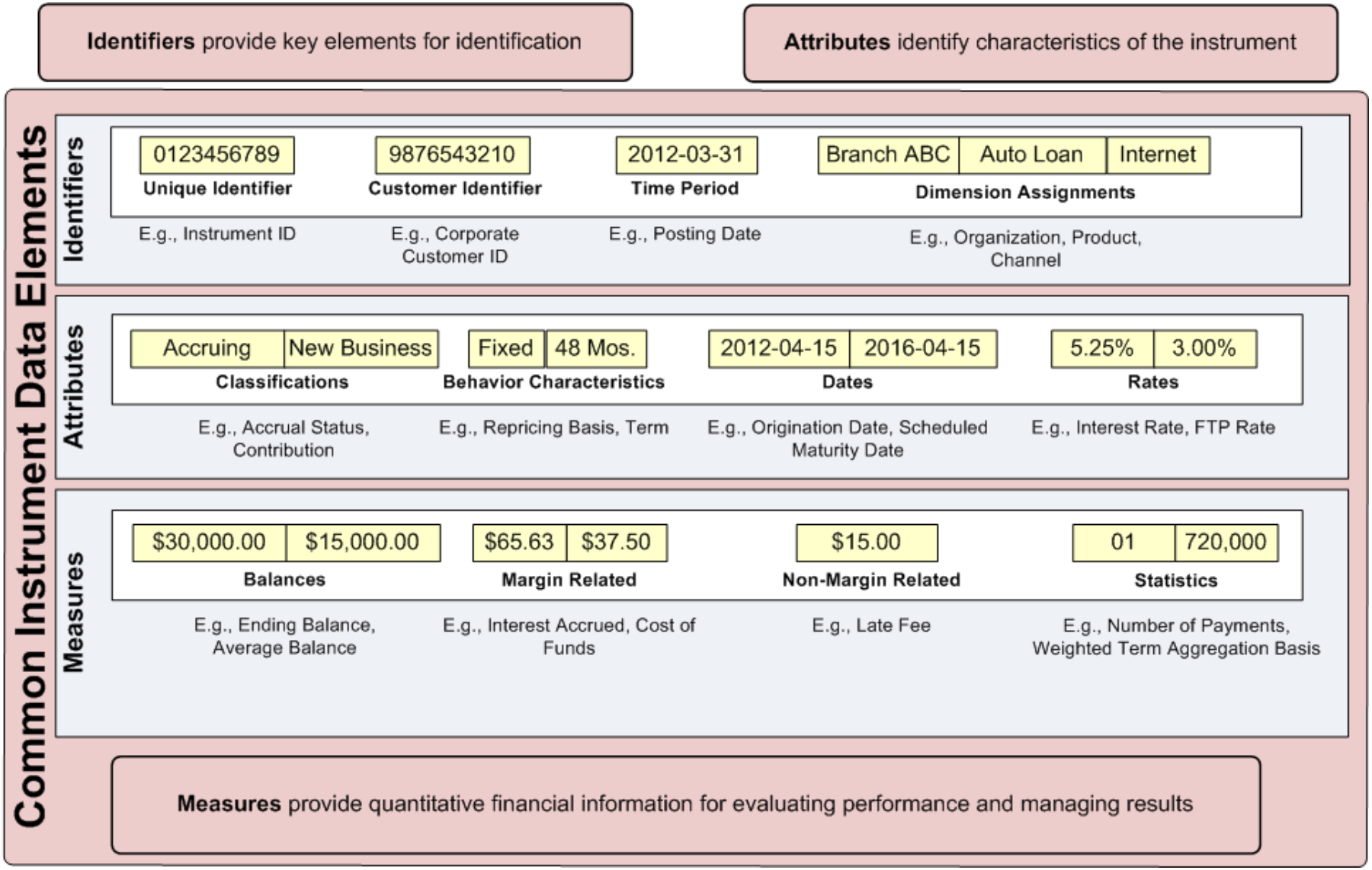
Does your Organization Look like this?



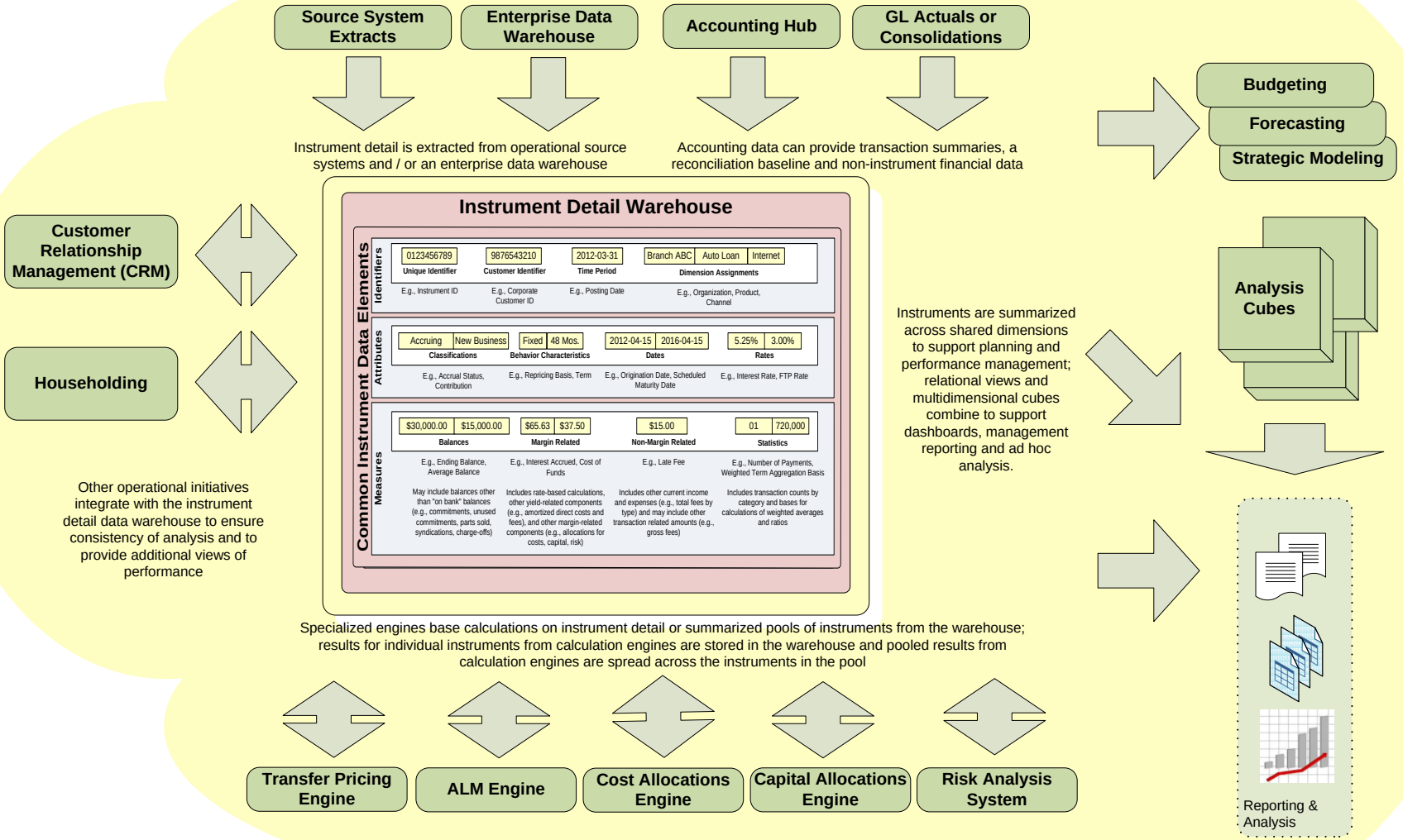
ROLTA

INSTRUMENT-LEVEL MULTI-DIMENSIONAL DATABASES

Instrument Detail Warehouse Overview

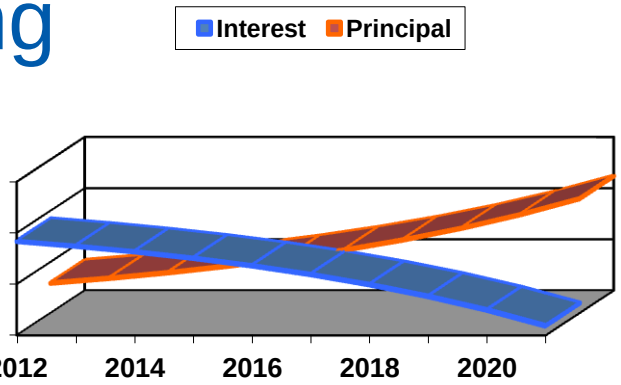


Instrument Detail Warehouse Overview



CASE STUDIES / EXAMPLES

Balance Sheet & Margin Planning



- This is a huge part of a bank's earnings…and variability of those earnings
- Many, many factors impact current & future performance
  - Future contractual cash flows for the existing book
  - Unscheduled runoff assumptions
  - New production volumes & pricing (including margin fees)
  - Seasonality / Utilization assumptions, etc
  - Future rate projections
- Treasury models these impacts for the total bank, but many banks struggle to bridge the gap into Planning & Forecasting
  - These factors are typically owned by many, many groups throughout the organization
  - How do you hold people accountable for delivering results?

Balance Sheet & Margin Planning

- Driving accountability down through the organization requires greater granularity on a number of dimensions than Treasury typically is interested in:
  - Business Unit
  - Geography
  - Product Types
- Because relevant data is captured at the Instrument level, the portfolio is broken down to its lowest common denominator, and can be rebuilt to match the desired levels of Planning
- Existing book future cash flows, etc. foot to Treasury “total bank” values
- Reporting can provide historical insight on the drivers groups need to forecast new business
  - Not just new business – THEIR new business
  - Not just spread on new volumes – THEIR spread on THEIR volumes!

Driver-based Planning Benefits

- Plan at the level where decisions are made at the organization, product and measure level
- Alignment of forecast authority and responsibility leads to greater ownership of results
- Managers enhance their understanding of product dynamics and variances
- Helps bridge the gap between how what managers do on a day-to-day basis impact the bank's performance
- Provides clarity into what organizational earnings goals require of daily performance
- Focuses managers on producing future results rather than just measuring past performance
- Improved understanding ultimately leads to improved Pricing models, decisions, forecasts, and actual results

Profitability

- Measuring Profitability by
  - Organizational Unit
  - Product
  - Channel
  - Vintage
  - Geographical Area
  - Customer / Customer Segment
  - Officer

- Components of Profitability
  - Spreads
  - Fees
  - Direct Expenses
  - Allocated Expenses
- Book of Business based on Officer Assignment
  - Ongoing Accountability for Credit
  - Attrition Goals

Credit Performance & Risk Reporting

- At an instrument level, data about the customer, credit decision, loan agreement, and actual performance was gathered, including:
  - Customer “Biographical” Information
  - Underwriting Information
  - Loan Structure/Pricing Information
  - Loan purpose
  - Original Loan Amount or Loan Commitment
  - Origination and Maturity date
  - Funding rate/cost
  - Collateral / Guaranty Information
  - Financial Performance Data
  - Credit Performance Data

Credit Performance & Risk Reporting

Across existing dimensionality…

- What types of analyses can be performed?
  - What are the major concentrations in our book of business?
  - Pricing vs. Risk
  - What about new production?
  - Vintage Analysis
  - Impact of Loan Exceptions
  - Maturity / Attrition Analysis
  - Disaster Planning

Account & Client Behavior

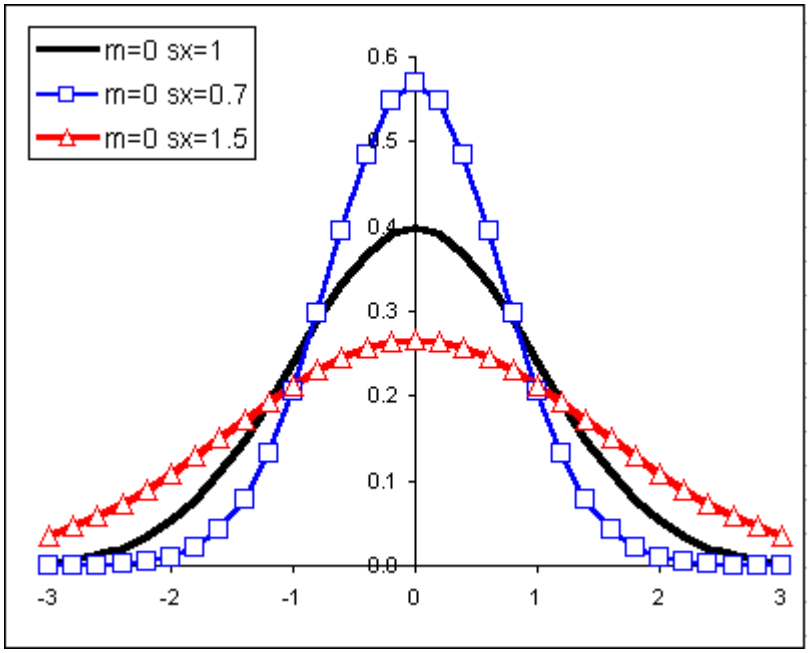
- Special Rate CDs
- How quickly do new lines of credit begin to behave like “the portfolio” of credits
- Next most likely product to buy
- Early warning signs – what accounts are getting ready to leave?
- How will changes in NSF / OD Fees – and fee types – impact revenues to the bank?

Sales Effectiveness

- Swimming further upstream into New Production – specifically, performance of the…
  - Sales Force
  - Sales Process
- Measures:
  - Information about the Officer
  - Information about the Application
  - Information about the Borrower/Applicant
    - FICO Score, LTV, Debt/Income, etc.
- Dimensionality: Employee/Role, Credit Worthiness, Application Status

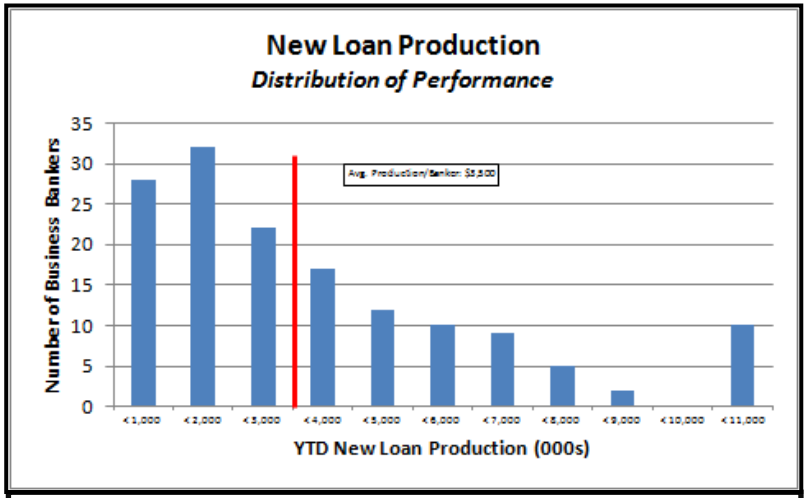
The Problem with "Averages"

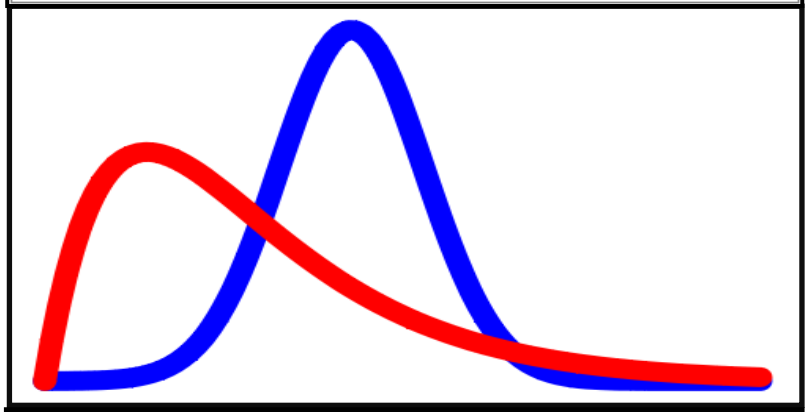
- Organizations fixate on "averages" – losing sight of what is happening across a population
- For Sales, this has major impact on goal setting, incentive plan design, and assessing & staffing key production roles:
  - Sales Goals: +10%, or double?
  - How do we reward our top performers? What do we risk if they leave?
  - If I add sales FTE, will my sales increase proportionately by the "average"? What if I cut staff?

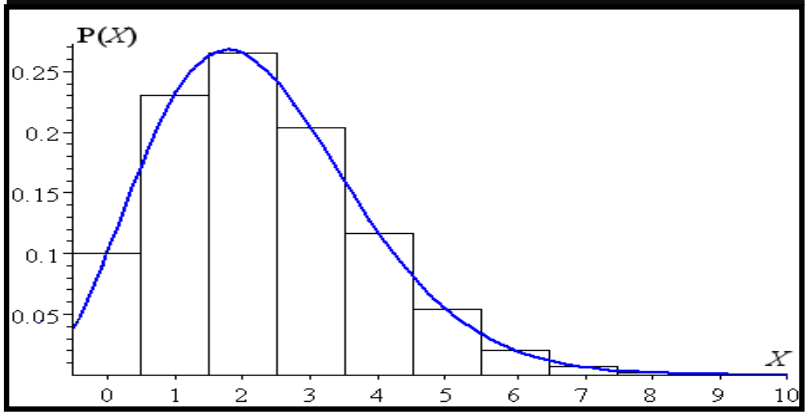


Sales Force Effectiveness

- How effectively are you “managing” your sales force?
- Best fit?
  - Log-Normal Curve
  - Poisson Distribution Curve
- The log-normal distribution is the maximum entropy probability distribution
  - Entropy: a measure of the number of ways in which a system may be arranged, often taken to be a measure of "disorder”
  - Physical systems tend to move toward maximal entropy configurations over time.
- the Poisson distribution is sometimes called the **law of small numbers**
  - it is the probability distribution of the number of occurrences of an event that happens rarely but has very many opportunities to happen

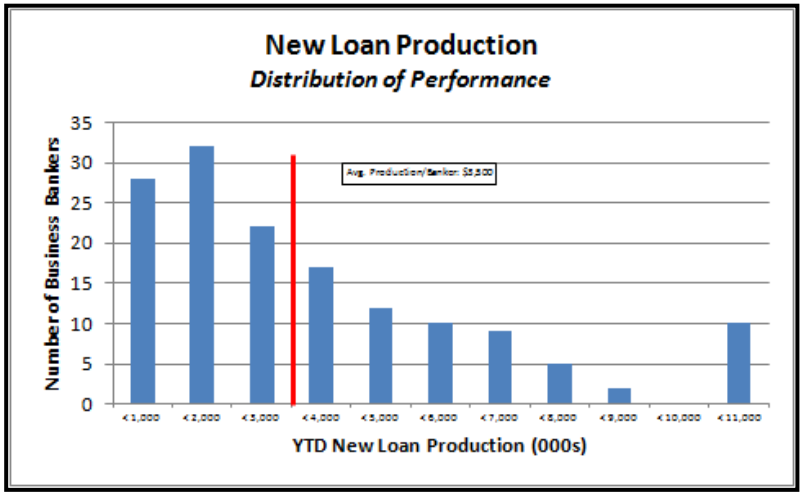


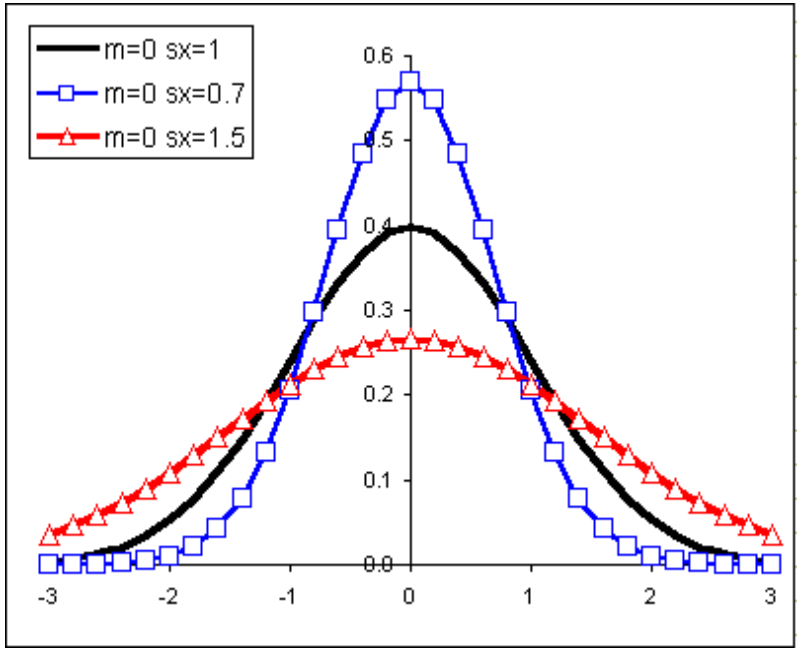




Sales Force Effectiveness

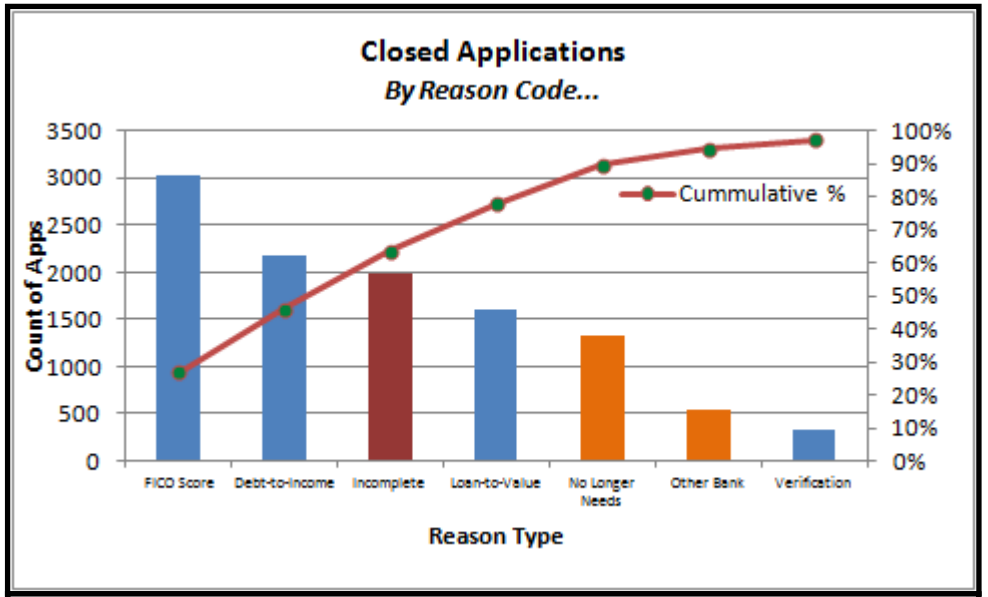
- How can I learn from the best, and bring the lower performers along?
- What is driving the performance differences?
  - Market Opportunity / Competition?
  - Time in Position?
  - Overall Experience Level?
  - Specific Prior Experience or Education?
  - Personality Traits?
  - Method / Process?
- Do I need to tweak / revamp compensation approach to retain my star performers?
- At what time does the “New” curve separate itself from the “Just not very good” curve?

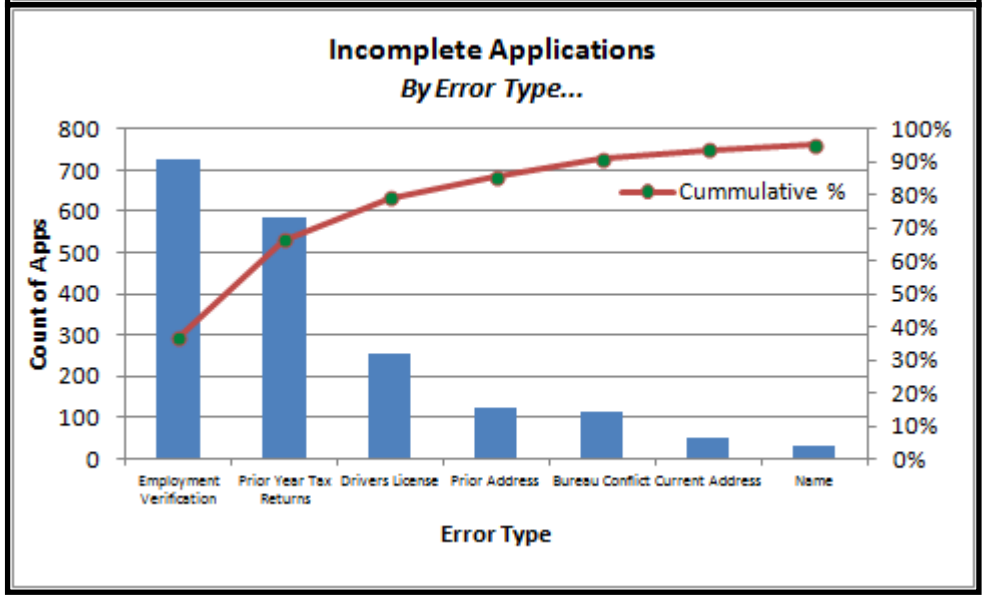




Process Improvement – Important source of feedback...

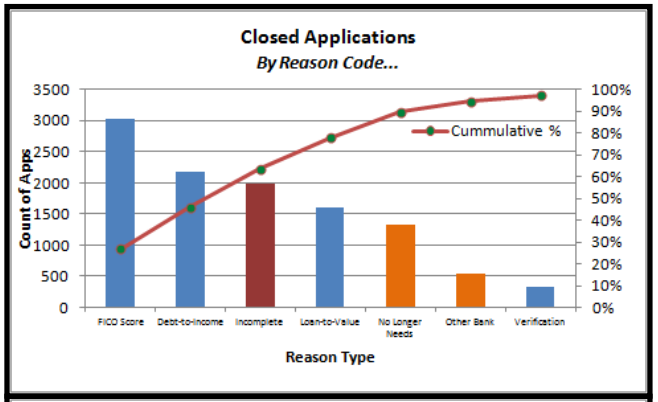
- Swimming further upstream, the "instrument" could be an application…
- Why do applications get "stuck in place" or ultimately fail? Why do some pass through underwriting to close, while others don't?

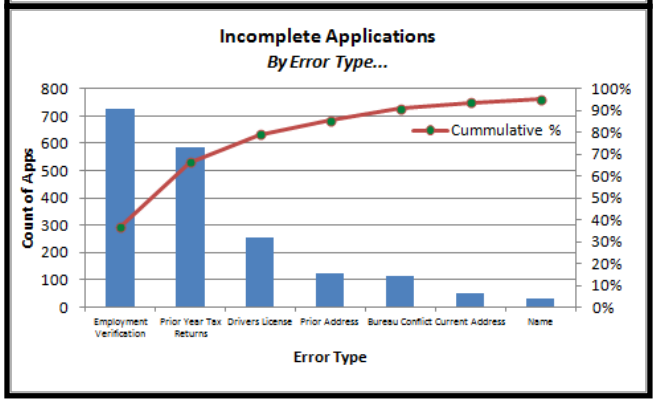


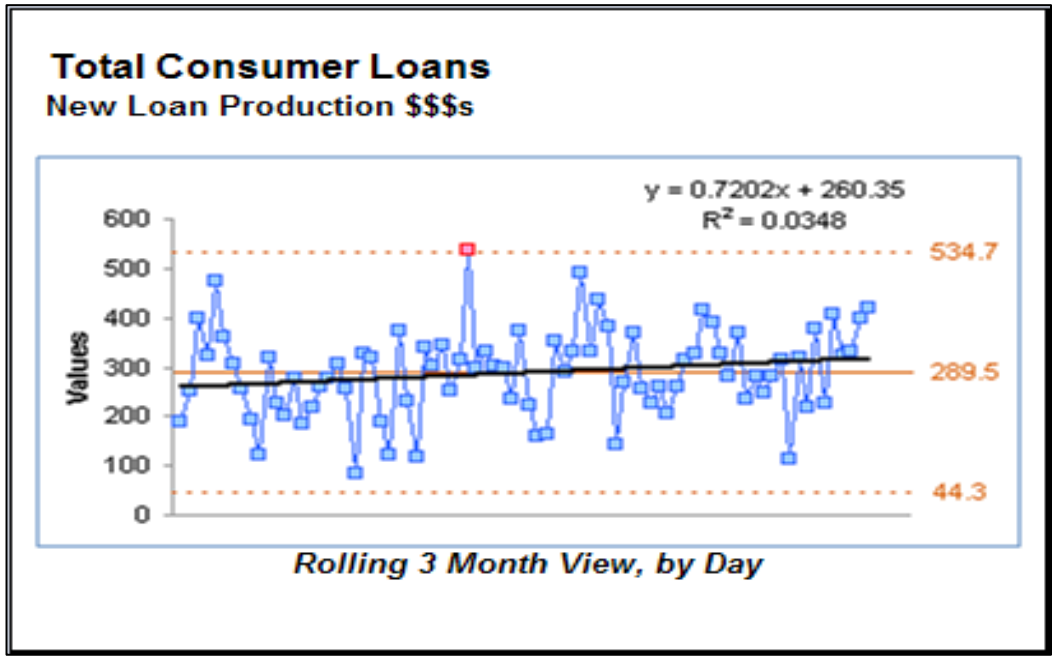


Process Improvement – Important source of feedback...

- Is a given error type a challenge for all? Or only for certain roles? A given geography? Understand the pattern, and you can craft an appropriate response.
- Is an issue getting worse, or are we making progress?
- What opportunities might there be hiding in your data?







KEYS TO SUCCESS

Driving Success in BI Efforts

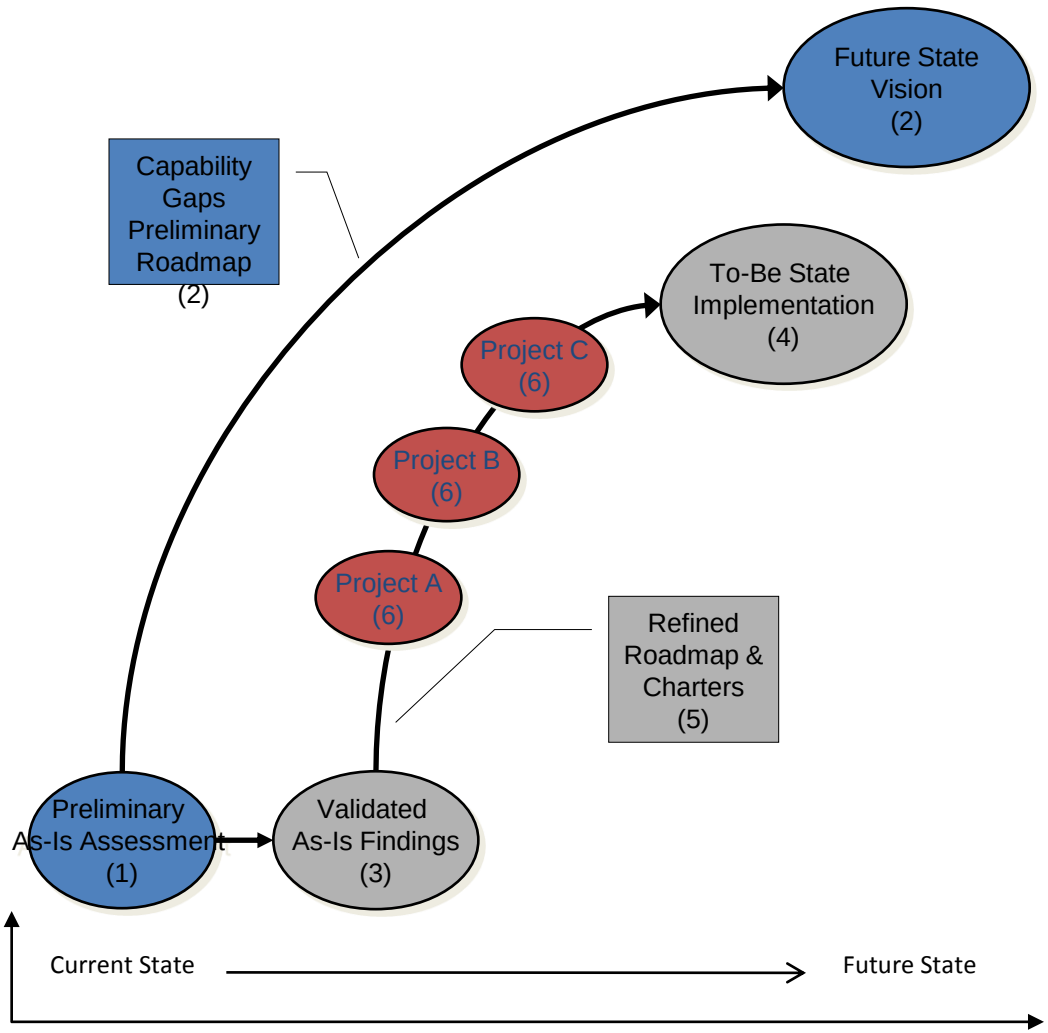
- What does it take to be successful?
  - Buy-in / Support at the highest level of the organization
  - Real need – and opportunity
  - Availability and quality of data
  - Involvement from Business Analysts in the Lines of Business – anticipating the kinds of questions that will need to be answered / problems that will need to be solved

Project Effort Determining Factors

- Number of data sources
- Availability, accessibility, and organization of data in data sources
- Cleanliness of source-system data
- Complexity of data transformations (data staging) required before rendering in dashboard
- Complexity of business rules / calculations
- Accuracy of dashboard reporting requirements
- Consistency of data definitions and reporting dimensions
- Volume of desired KPIs, Dashboards, and pre-built reports
- Degree to which documentation, institution of production processes, training, and general knowledge transfer is conducted
- Security requirements
- Availability and level of involvement from Business & Technical staff

Solution Delivery Philosophy

Pragmatic/Phased Project Implementation



(1) **Preliminary As-Is Assessment** – Performed high-level assessment of current state of Planning

(2) **To-Be State Vision** – Formulated aspirational vision for Client' Planning Process, capabilities, and operating model. Identified main capability gaps and prepared high-level preliminary roadmap to bridge from current state to future vision.

(3) **Validated As-Is Findings** – Analyzed of current state based on 6-8 week effort

(4) **"To-Be" State Implementation** – Create a set of recommendations that collectively specify a future state for Planning Process. The recommendations confirm and clarify the Vision and represent a concrete description of what can be expected in a 9-12 month timeframe.

(5) **Refined Roadmap and Charters** – Articulated a refined roadmap and developed project charters to describe the efforts necessary to implement the recommendations.

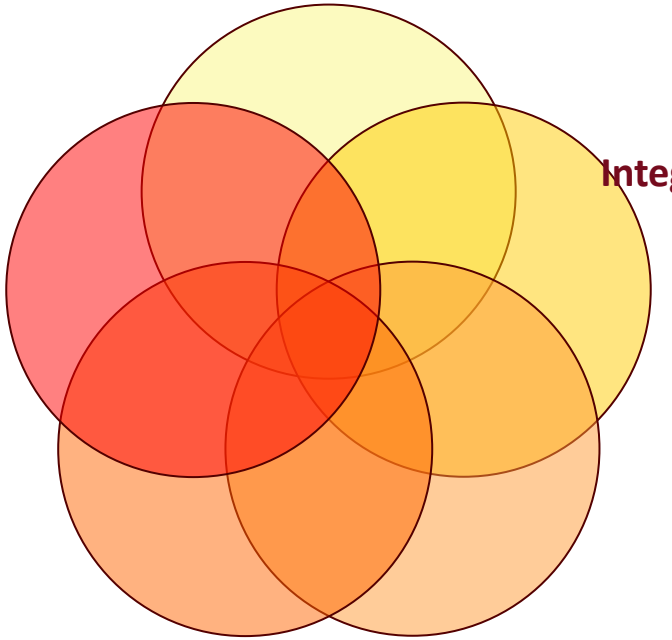
(6) **Discrete Plan and Build Projects** – Initiated development of workplans necessary to launch Design and Build Phases.

Successful Executive Dashboards

Executive Dashboards are subject to constant change. The enabling technology must be flexible and robust. The application must be easy to use. Projects must create rapid value without limiting future capabilities. The audience must be given tools to manage and analyze, not just monitor their metrics. The dashboard needs to provide a context for decision making.

Phased Approach to Implementation and Support

Easy to Learn and Use



Integrated Analysis Capabilities

Management Capabilities

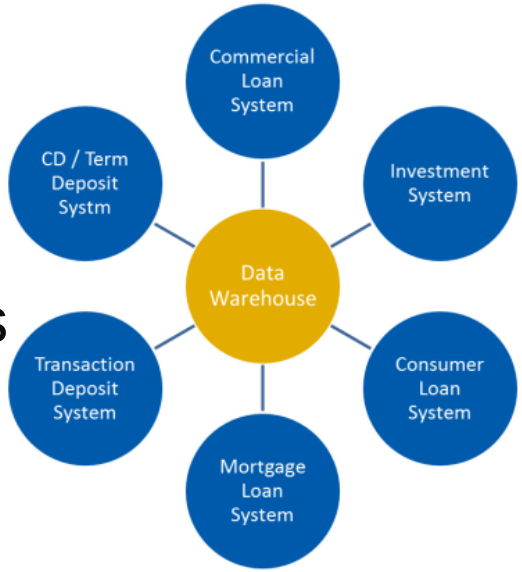
Flexible, Robust Technology

Takeaway

- Get started now!
  - Your competitors are already adopting these transformational projects and seeing real results
- These are not just IT initiatives!
  - Get aligned with the business and understand the essential drivers.
  - These project drive real business value
- Set realistic goals to climb the “Gartner Curve”!
  - Understand where you are relative to technology and organizational capabilities
  - Don’t forget that this is not about dashboards but long term Financial & Operational Excellence and growing business value.

Takeaway- Selecting a Partner/s

- Lowest cost vendor is not correct with these projects; the value to your organization is too high.
- Deep industry & functional knowledge is required
- Vendor investments can accelerate time to value and provide best practice access
- Sustainable and Scalable architecture and design is required as you will upgrade these systems
- Assure you can work well with partner and they are flexible to meet your needs



Look for Partners with deep understanding of your problems and who can give you an early win!

Questions?