**IBM ASEAN Leadership Exchange**

# Intelligent Enterprise

Building the foundation

# Session agenda (To be deleted)

Can you predict and respond to opportunities and threats? Optimize operations to reduce costs and capitalize on new sources of revenue? Proactively manage risk while ensuring efficiency? Learn how intelligent enterprises are harnessing breakthroughs in analytics and business optimization to manage pervasive information, analyze it to gain insight, predict risks and opportunities, and drive faster, smarter decisions and actions.

Globalization, massive interconnections and increased risk, combined with an explosion of information, results in a challenging and continuous cycle of inefficiency and operational complexity. Unfortunately, many leaders are making crucial business decisions based almost entirely on intuition and personal experience rather than intelligent information.

A fundamental shift to a smarter, fact-based enterprise is imperative. How can this help your organization? A more predictive information strategy and a clearly defined information agenda will pave the way for more intelligent decisions. Harness the power.

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# What have you been telling us?

- Business leaders regard their experience and intuition as inadequate tools for optimizing their enterprises

- Enterprises are making important decisions without access to the right information

- New analytics applied in businesses can close gaps and create new advantage

- It's not too late to start

**IBM report surveyed of 225 business leaders worldwide**

Source: *Business Analytics and Optimization for the Intelligent Enterprise*, April 2009.
http://www-935.ibm.com/services/us/gbs/bus/pdf/gbe03211-usen-00.pdf

**Volume of Digital Data**
Every day, 15 petabytes of new information are being generated. This is 8x more than the information in all U.S. libraries.

By 2010, the codified information base of the world is expected to double every 11 hours.

**Variety of Information**
Today, 80% of new data growth is unstructured content, generated largely by email, with increasing contribution by documents, images, and video and audio

**Velocity of Decision Making**
70% of executives believe that poor decision making has had a degrading impact on their companies' performance

Only 9% of CFOs believe they excel at interpreting data for senior management

# Organizations are operating with blind spots

**Factors supporting major decisions**
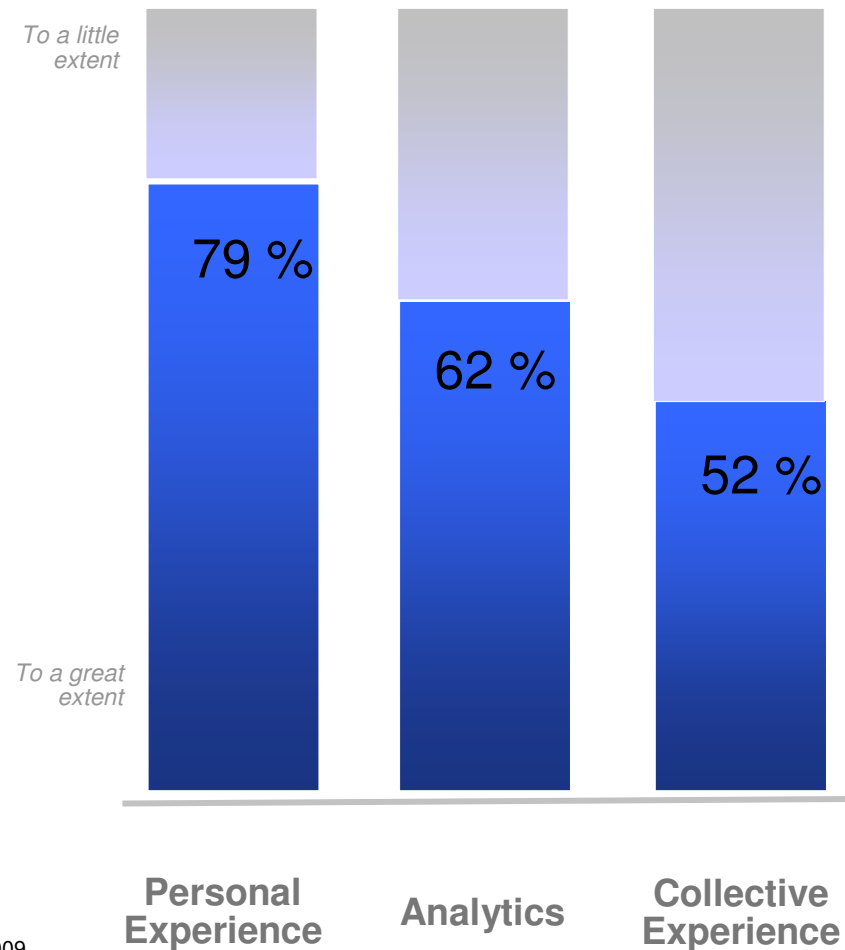
# 1 in 3
**business leaders frequently make critical decisions without the information they need**

# 53%
**don't have access to the information across their organization needed to do their jobs**

*To a little extent*

79 %

62 %

52 %

*To a great extent*

**Personal Experience**

**Analytics**

**Collective Experience**

Source: *Business Analytics and Optimization for the Intelligent Enterprise*, April 2009.
http://www-935.ibm.com/services/us/gbs/bus/pdf/gbe03211-usen-00.pdf

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# Most organizations recognize the opportunity for analytics, but are still very early in the adoption process

## 3 in 4

**business leaders say more predictive information would drive better decisions**

## 2 in 3

**business leaders see the opportunity to leverage information and are just beginning to act**

## 1 in 5

**business leaders haven't thought about how to use information for new advantages**

**Understand risk**
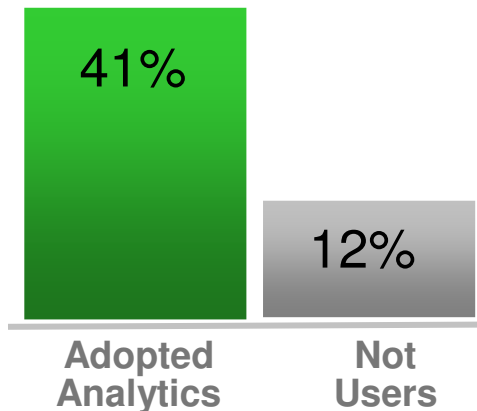
| Adopted Analytics | Not Users |
|---|---|
| 41% | 12% |
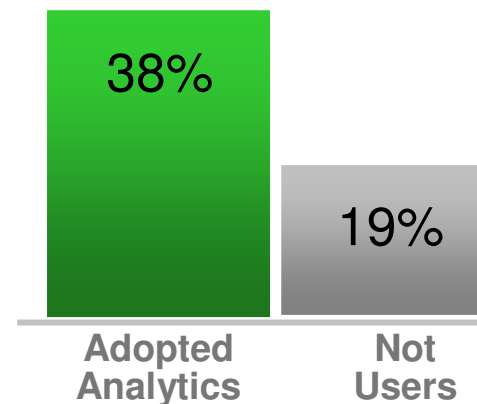
**Ability to predict**

| Adopted Analytics | Not Users |
|---|---|
| 38% | 19% |

Source: *Business Analytics and Optimization for the Intelligent Enterprise*, April 2009. http://www-935.ibm.com/services/us/gbs/bus/pdf/gbe03211-usen-00.pdf

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# What is IBM doing to help organizations

| | |
|---|---|
| **IBM Vision** | **Smarter Planet** |
| **Value Promise** | **Smarter Decisions for Optimized Performance** |
| **Theme** | **New Intelligence** |

**Client Value Proposition**

### Intelligent Enterprise

| Cost-takeout and Efficiency | Proactive Risk Management | Intelligent Profitable Growth |
|---|---|---|

**Solutions**

### BAO Solution Set

| Cross Industry | Financial Services | Public | Distribution | Industrial | Commun-ications |
|---|---|---|---|---|---|

Financial Management

Human Capital Management

Supply Chain Management

Customer Relationship Management

**Software Platforms**

### Business Analytics and Optimization Platform

| Performance Management & Analysis | Business Process Management |
|---|---|
| Advanced Analytics | Collaboration, Web 2.0 |

Information Integration and Master Data Management

Enterprise Content Management

Data Warehouse and Other Data Management

**Operate and Run**

| Application Mgmt | Hosting | DC Outsourcing | BPO |
|---|---|---|---|

**Hardware**

**Information Technology**

*Information Agenda*

*BAO (Business Analytics and Optimization)*

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# Intelligent Enterprise integrates information into business decisions and operations at increasing levels of sophistication

**BAO Maturity Stage**

## Business Optimization

How the business applies information to achieve it's goals
- Policies
- Biz Processes

- **Customer loyalty and event management**

- Risk Management

- Segment-specific products and pricing

- Supply chain optimization

- **Single view of the customer**

- Marketing Dashboard

- Quality management

- Brand and reputation analysis

- **Data and Analytics simplification**

- Credit Risk assessment

## Business Analytics

How the business manages information and learns from it

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# If you can't get past data integration – Survival may be in question…

Organizations are focused on six key elements:

| | Quality | Trust | Cost | Velocity |
|---|:---:|:---:|:---:|:---:|
| **1. Capture of detailed transaction & interaction data**<br>▪ Enables "right time" actions to acquire, grow, and retain customers<br>▪ Provides base level customer insights | ✓ | ✓ | | ✓ |
| **2. Integrated data**<br>▪ Data synchronization to facilitate organizational flexibility<br>▪ Enables customer and financial management across the entire enterprise | ✓ | ✓ | ✓ | ✓ |
| **3. Customer valuation / segmentation / prioritization**<br>▪ Understand current and potential customer value<br>▪ Bases for sales and customer management strategies | ✓ | | ✓ | ✓ |
| **4. Right Time = Progressively removing delays from Business Process ***<br>▪ Provides a new way to sell and enhance customer experience<br>▪ Becomes the foundation of the business model | | ✓ | | ✓ |
| **5. Dynamic channel management**<br>▪ A uniform and consistent customer management across all channels<br>▪ Ability to move to near segments of one in sales and marketing | ✓ | ✓ | | ✓ |
| **6. Flexibility and agility**<br>▪ Test and learn discipline key to success<br>▪ Fast reaction time to market, customer, and competitive change | ✓ | ✓ | ✓ | ✓ |

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# Using analytics to deliver optimized performance

| Credit Risk Performance | Financial Threat Intelligence | Fraud Analytics and Management | CEO and CFO Dashboards | Carbon Intelligence | Advanced Customer Insight |
|---|---|---|---|---|---|

**Operating Effectiveness**

**Consistent view of global performance**

**Competitive Differentiation**

**Manage information as a strategic asset**

**Accelerating Performance**

**Data and Analytics Simplification and Optimization**

| Advanced Employee Insight | Operational Risk Insight | Capital Budget Optimization | Corporate Brand and Reputation Analysis | Revenue Assurance | Employee Empowerment |
|---|---|---|---|---|---|

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# BAO addresses critical client needs through big plays

**Analytics and Data Optimization**

Client Pain Points
- **Cost Complexity due to Acquisitions**
- **Need Data Simplification**
- **Operating expense too high**

Industry Focus
**Launch:** **Banking**
**Secondary:** **Life Sciences**

Client Pain Points
- **Limited access to customer data**
- **Need for customer loyalty & profitability**
- **Need for revenue assurance**

Industry Focus
**Launch:** **Telco**
**Secondary:** **Banking, Retail**

Client Pain Points
- **Need for risk transparency**
- **Losses due to unmanaged Risk**
- **High rates of Fraud and Abuse**
- **Increased regulatory oversight**

Industry Focus
**Launch:** **Banking**
**Secondary:** **Government**

**Cost Take-out and Efficiency**

**Intelligent profitable growth**

**Proactive risk management**

**Advanced Customer Insight**

**Risk and Fraud Analytics**

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# Extending our extensive portfolio of industry-based solutions and building additional big plays is our highest priority

Crime Information Warehouse

Data Integration Solution (stone soup)

Production Design & Operations Scheduling

M&E Advertising Analytics

Life Sciences State Spend Solution

CRM Analytics for Airlines

Dynamic Inventory Optimization

Workforce Analytics

Member 360 (Healthcare)

Customer Data Mgmt Solution

Sense & Respond

**Analytics and Data Optimization**

Workforce Measurement

Supply Chain Optimization

M&E Event Analytics

Data Governance

Fraud & Abuse Management

CFO Dashboard

Demand Driven Replenishment (CP)

Event-based Customer Management

Petroleum BPM

Tax Audit & Compliance

Risk Insight

Revenue Assurance

Customer Care & Insight

**Cost take-out and efficiency**

Common Quality Framework / Warranty Analytics

Customs Risk Management

Fraud & Abuse Management

Telco Customer Intelligence

Loyalty Identification Focused Targeting

START (ARRA/ Stimulus)

**Intelligent profitable growth**

**Proactive risk management**

Credit Risk Performance

Insurance Executive Dashboard

Risk & Investigation Insight

Insight for Schools / Education Perf. Mgmt

Healthcare Analytics

**Advanced Customer Insight**

**Risk and Fraud Analytics**

Enterprise Scorecarding / BPM

Threat & Fraud Intelligence (Financial)

Trade Promotion Optimization (CP)

Retail Performance Analytics

**Business Analytics and Optimization**

Risk-Adjusted Profitability

Carbon Intelligence

⬡ Go-to-market plays

| Cross-sector | FSS | Public | Distribution | Industrial | Communications |

# What does BAO mean for healthcare companies?

**Data and Analytics Simplification and Optimization**

**Corporate Brand and Reputation Analysis**

**Clinical Decision Intelligence**

WELLPOINT

HCA
Hospital Corporation of America®

UnitedHealthcare®
A UnitedHealth Group Company

GEISINGER

Horizon
Horizon Blue Cross Blue Shield
of New Jersey

CIGNA

CMS
The Medicare, Medicaid, and SCHIP Agency

Aetna

UNC
HOSPITALS

Memorial Sloan-Kettering
Cancer Center

MAYO CLINIC

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# What does BAO mean to shoppers, consumers & customers?

**Featured case studies**

Marketing and Brand Intelligence

Customer Equity and Lifetime Management

Business Measurement and KPIs

Trade Promotion Dashboards

## Nestle Challenge

Shoppers

Consumers

**How do we optimize for all three?**

Customers

## Select Client List

KRAFT

AMERICAN EXPRESS

Nestle.

Unilever

FINNAIR

STATE FARM INSURANCE

QANTAS

UBS

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# Assessment of data infrastructure appears to be challenged to support future business strategy

| Base | Competitive | Differentiated |
|------|-------------|----------------|

**Data Sources**
Data sources and platforms with redundancies and significant management complexity; lack of a coordinated plan drives higher costs and complexities downstream.

**Data Integration**
Divergent data integration rules, tools, processes, and environments drive cost and complexity challenges.

**Data Repositories**
Redundant and divergent data, data structures, transformation, and accessibility based on LOB needs and requirements

**Access & Analytics**
An industry leader in real time or near real time decisioning for Credit Decision & Fraud
Data management issues noted threaten the ability to sustain the desired rate of growth in spend and income.

**Data Governance**
Initiated in several verticals, but not consistently established

**Metadata**
Initiated, not shared broadly within enterprise

**Security and Data Privacy**

**Network Connectivity**
FFC was an early messaging adopter

**HW / SW**
Opportunity exists for consolidation.

*The current state of the data environment impedes the ability to consistently transform data into information quickly and efficiently.*

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# Transformation Conceptual Architecture

| Data Categories | Data Integration | Data Repositories | Semantic | Analytics |
|---|---|---|---|---|

**Data Categories**
- Cards
- Demand Deposits
- Time Deposits
- Customer MDM
- Mortgage
- Marketing
- Consumer Loans
- Commercial Loans
- Auto
- Risk
- Wealth
- Finance
- Treasury
- Insurance
- HR

**Data Integration**
- Source System Extracts
- Load Ready Landing Zone
- Data Quality (Technical & Business)
- Clean Staging Landing Zone
- Common Transformations
- Load Ready Landing Zone
- Subject Area Loading

**Data Repositories**
- Enterprise Data Warehouse (BDWM)
- TPR
- User Area
- Legacy "W"
- Data Marts
- OPTIM (Archive)

**Semantic**
- Virtual Marts
- Security Views
- BI Catalogs
- Data Services
- Metadata

**Analytics**
- Canned Reports
- Ad-Hoc
- Analysis
- Analytics

Security/Privacy

Data Quality

Metadata

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# IBM's Business Intelligence Reference Architecture and associated benefits

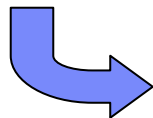| Data Sources | Data Integration | Data Repositories | Analytics | Access |
|---|---|---|---|---|
| Clients are achieving annual cost saves in the range of **2 to 8%** by encapsulation layers and shadow extracts | Clients are achieving annual cost saves in the range of **10 to 35%** by creating sets of reusable ETL objects in a target-based approach | Clients are achieving annual cost saves in the range of **10 to 15%** for Analytic consolidations & **20 to 40%** for Operational consolidations | Clients are achieving annual cost saves in the range of **10 to 40%** through standardization of tools … reversing the 80/20 data archeology to data analysis ratio | |

Clients are achieving annual cost saves in the range of

**20 to 40%**

through integrated data governance with each component of the BI Architecture

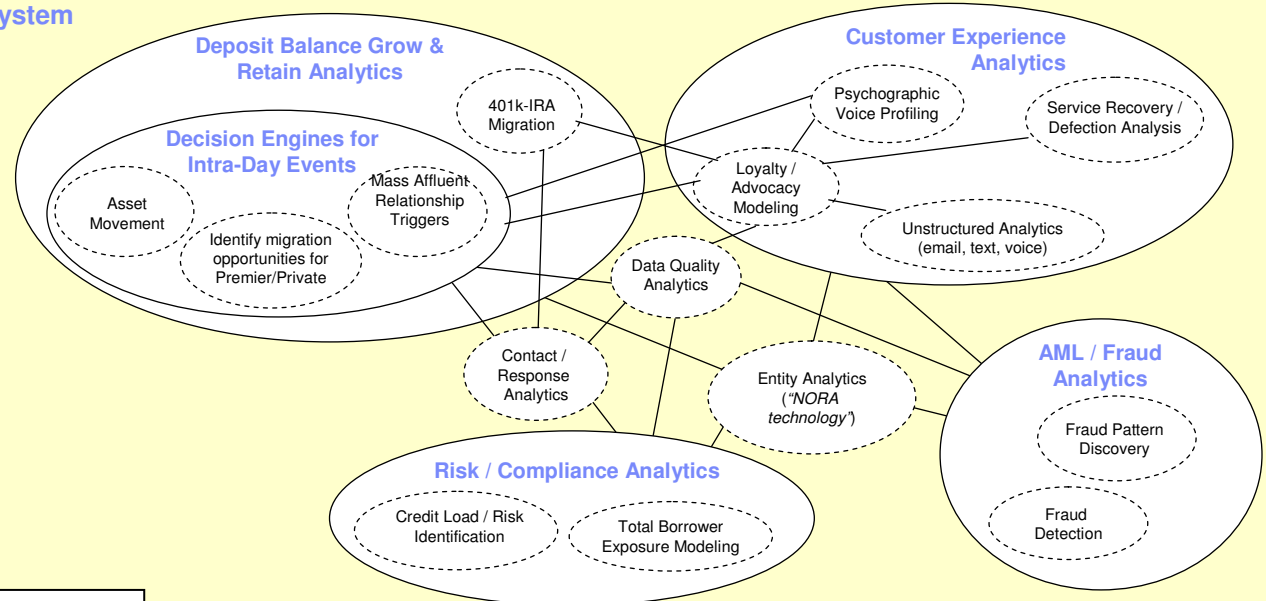*Data Environment*          *BI OLAP Environment*

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# The Future State can be described as an Analytics Ecosystem of shared information services supported by key productivity and process improvements
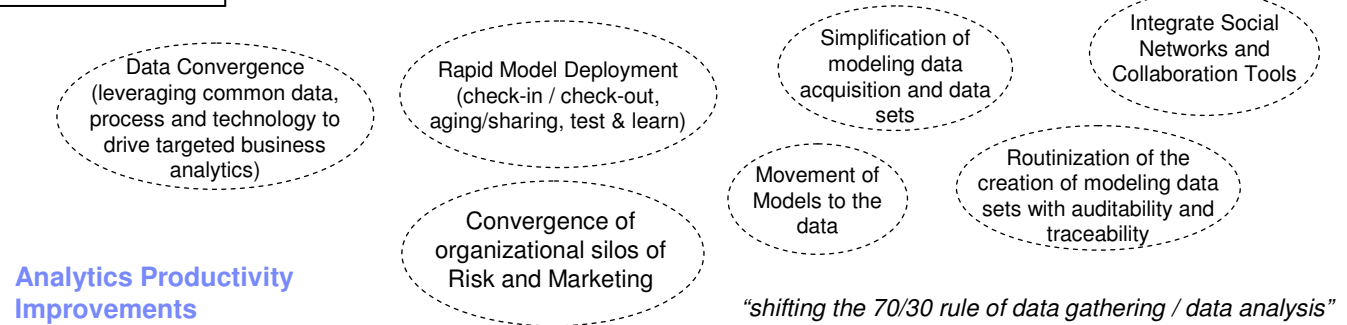
**Transformation Fuel**
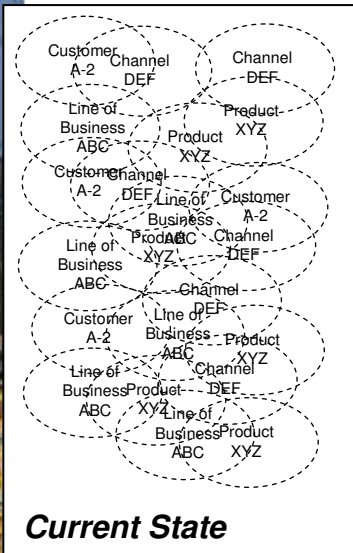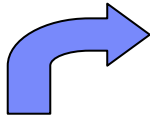
**Current State**

**Transformation Fuel**

**Analytics as an Ecosystem**

**Deposit Balance Grow & Retain Analytics**

**Decision Engines for Intra-Day Events**

- Asset Movement
- Identify migration opportunities for Premier/Private
- Mass Affluent Relationship Triggers

- 401k-IRA Migration

**Customer Experience Analytics**

- Psychographic Voice Profiling
- Service Recovery / Defection Analysis
- Loyalty / Advocacy Modeling
- Unstructured Analytics (email, text, voice)

- Data Quality Analytics

- Contact / Response Analytics
- Entity Analytics ("NORA technology")

**AML / Fraud Analytics**

- Fraud Pattern Discovery
- Fraud Detection

**Risk / Compliance Analytics**

- Credit Load / Risk Identification
- Total Borrower Exposure Modeling

**Future State**

**Analytics Productivity Improvements**

- Data Convergence (leveraging common data, process and technology to drive targeted business analytics)
- Rapid Model Deployment (check-in / check-out, aging/sharing, test & learn)
- Simplification of modeling data acquisition and data sets
- Integrate Social Networks and Collaboration Tools
- Movement of Models to the data
- Routinization of the creation of modeling data sets with auditability and traceability
- Convergence of organizational silos of Risk and Marketing

*"shifting the 70/30 rule of data gathering / data analysis"*

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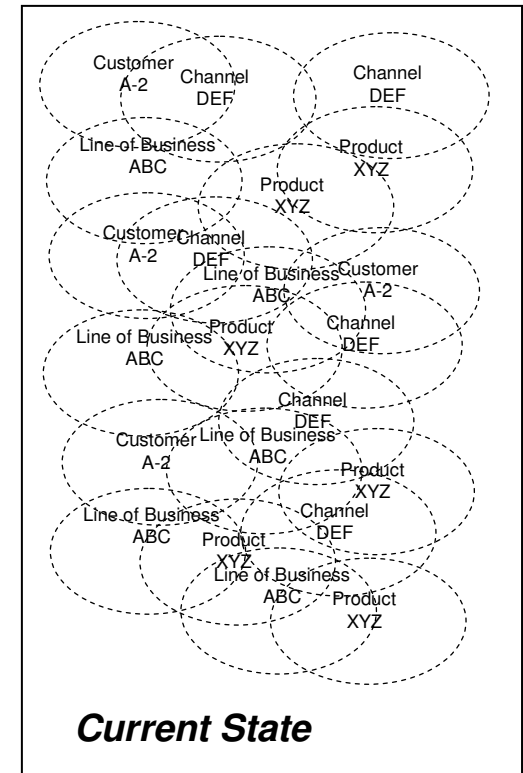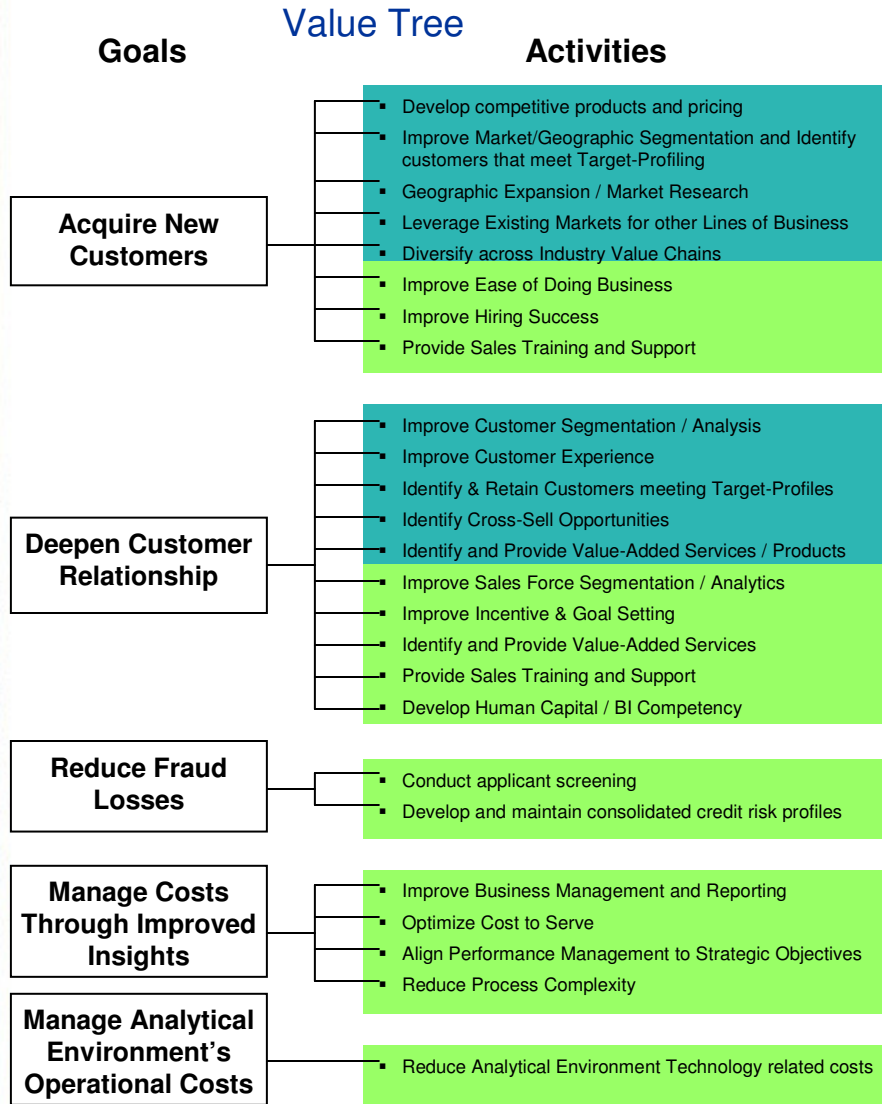
# How do we assess the current status of the information management practices across the enterprise

- **At the start of the assessment, many will not understand the full extent of data management business and technical challenges.**

- **Our analysis uncovered a number of challenges:**
  - Many data architectures – no standard
  - 10,000+ Tables
  - Conflicting and overlapping extracts
  - 25,000 ETL programs
  - Over 30 cubes for 60 Analysts
  - 70% of time gathering data
  - Poor information availability and access
  - Poor data quality

- **Current State: often a mess of un-integrated collection of highly redundant, overlapping and hard to manage LOB-centric, product-centric, channel-centric and/or customer segment-centric data**



*Current State*

# Drive incremental benefits by knowing the value tree

**Value Tree**

**Goals**  **Activities**

**Representative Benefits**

### Acquire New Customers

- Develop competitive products and pricing
- Improve Market/Geographic Segmentation and Identify customers that meet Target-Profiling
- Geographic Expansion / Market Research
- Leverage Existing Markets for other Lines of Business
- Diversify across Industry Value Chains
- Improve Ease of Doing Business
- Improve Hiring Success
- Provide Sales Training and Support

### Deepen Customer Relationship

- Improve Customer Segmentation / Analysis
- Improve Customer Experience
- Identify & Retain Customers meeting Target-Profiles
- Identify Cross-Sell Opportunities
- Identify and Provide Value-Added Services / Products
- Improve Sales Force Segmentation / Analytics
- Improve Incentive & Goal Setting
- Identify and Provide Value-Added Services
- Provide Sales Training and Support
- Develop Human Capital / BI Competency

### Reduce Fraud Losses

- Conduct applicant screening
- Develop and maintain consolidated credit risk profiles

### Manage Costs Through Improved Insights

- Improve Business Management and Reporting
- Optimize Cost to Serve
- Align Performance Management to Strategic Objectives
- Reduce Process Complexity

### Manage Analytical Environment's Operational Costs

- Reduce Analytical Environment Technology related costs

**Improved Return on Marketing Investment (ROMI)**

| Improve-ment | Business Areas | Annual Net Benefit |
|---|---|---|
| 25% | Customer Marketing Events Identification | $5M to $7M |
| 10% | Campaign Analysis Effectiveness | $2M to $3M |
| 10% | New Product Value Proposition Creation | $5M to $7M |

**Improved Customer Treatment**

| Business Areas | Annual Net Benefit |
|---|---|
| Ability to decision at the Customer Level | $4M to $5M |
| Improved assessment and actioning of Borrower exposure | $4M to $5M |
| Reduced poor performing customer communications | $4M to $5M |
| Improved Customer Retention | $2M to $5M |
| Additional significant business opportunities / events | $1M to $1M |

**Improved Productivity**

| Improve-ment | Business Areas | Annual Net Benefit |
|---|---|---|
| 50% | Analysts time in Data Acquisition | $0.5M to $1M |
| 20% | New Product Development Cycle Time | $1.5M to $2M |
| 10-15 | Additional significant business opportunities / events | $5M to $7M |

**Legend:**
- Customer facing
- Business facing

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# Questions?

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