BUSINESS ANALYTICS AND OPTIMIZATION

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BAO CEE LEADER
Why now for Business Analytics and Optimization (BAO)?

What is an Intelligent Enterprise?

How do I get started?
Volume of Digital Data

Every day, 15 petabytes of new information are being generated. This is 8x more than the information in all European libraries.

By the end of 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.

38% of email archiving decisions receive input from a C-level executive and 23% from legal/compliance professional.
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.
What’s happening?

• 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
Organizations are operating with blind spots

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.

Factors supporting major decisions:

- Personal Experience: 79%
- Analytics: 62%
- Collective Experience: 52%

Organizations need to adopt new ways to improve speed to insight and speed to impact.

<table>
<thead>
<tr>
<th>Traditional Approach</th>
<th>New Approach</th>
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<tbody>
<tr>
<td>Instinct and intuition</td>
<td>Fact-driven</td>
</tr>
<tr>
<td>Corrective</td>
<td>Directive</td>
</tr>
<tr>
<td>Years, months, weeks</td>
<td>Hours, minutes, seconds</td>
</tr>
<tr>
<td>Human insight</td>
<td>Applied semantics</td>
</tr>
<tr>
<td>Decision support</td>
<td>Action support</td>
</tr>
<tr>
<td>Efficient</td>
<td>Optimized</td>
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</table>
Business Analytics and Optimization

Key enabler for competitive advantage

*Investments in Business Analytics and Optimization Projects are *growing more than twice as fast* as in Business Automation*
There is another way of saying this.................

The secret of business is to know something that nobody else knows.

Aristotle Onassis

“translating business requirements to a data problem and the resulting insights to business actions and value remain largely a skill missing”

Evangelos Simoudis
What is an Intelligent Enterprise?
Intelligent Enterprises pursue value along multiple dimensions

Operating Effectiveness
- Trusted Information
- Empowered Workforce
- Continuous Improvement

Competitive differentiation
- Outperform Peers
- Deeper Insight
- Innovate to lead

Accelerating Performance
- Lower Costs
- Profitable Growth
- Manage Risk
Analytics is the next bow wave of business change
Intelligent Enterprises integrate information into business decisions and insight into operations.
Intelligent Enterprises integrate information into business decisions and insight into operations
Where are you on the Wave?

Business Operations Maturity

How the business applies information to achieve its goals
- Policies
- Business Processes
- Organization

Information and analytics maturity

Breakaway
Prescriptive, real-time, pattern-based strategies with situational context

Differentiating
Predictions, contextual business rules and patterns

Competitive
Master data management, dashboards and scorecards

Foundational
Data warehouses, governance and production reporting

HEROICS
Spreadsheets and extracts

Business Process Management
Resource Planning
Transactional Automation
How to get started?

The New Path to Value
How to get started

Pick your spot
Biggest and highest value opportunity

Prove the value
Start with questions
Provide insights

Roll it out over time
Add capabilities
Information agenda
Three areas to get started with Business Analytics and Optimization

**Plan an Information Agenda**

- ...to align with your business strategy

**Master Your Company Information**

- ...to ensure it is accurate, relevant and governed

**Grow Revenue/Profit thru Data Analytics**

- ...to anticipate and shape business outcomes
Your Information Agenda is made up of four parts...

**CREATE a Vision** for the value of information to the whole business, and the capability needed to unlock it.

**BUILD a Roadmap** of IT and Business initiatives, demonstrating incremental Business Value.

**BUILD the Technology** Infrastructure to create and manage information as an enterprise asset.

**ESTABLISH the Governance** Organization, policies and tools to ensure quality, risk mitigation and lifecycle.

**Better information processing capabilities**

**Untapped business oppy. in information**

**Siloized, unreliable and unexamined data**

**Project centric IT investment**
### Three Steps to Accelerate your Information Agenda

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Duration*</th>
<th>Activities</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand and agree the value of an Information Agenda</td>
<td>1 Day</td>
<td>• Review IA client objective and value with senior sponsor</td>
<td>• Industry POV Presentation</td>
</tr>
<tr>
<td>• Build IA Vision And High Level “Roadmap” For BAO Journey</td>
<td>2 weeks</td>
<td>• IA Client Assessment</td>
<td>• Readiness Assessment</td>
</tr>
<tr>
<td>• Define Project</td>
<td>Onsite and</td>
<td>• IA Client Business Benefits</td>
<td>• Business Benefits</td>
</tr>
<tr>
<td>offsite</td>
<td>4 Weeks</td>
<td>• Evaluate And Select Software</td>
<td>• Reference Architecture</td>
</tr>
<tr>
<td>(elapsed time) workshop</td>
<td></td>
<td>• Size And Scope Project</td>
<td>• Roadmap</td>
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*Duration times can be adjusted

The Information Agenda engages IT and line-of-business representatives to develop recommendations that can have an impact on the business and are aligned with your organization’s strategic objectives.
Three types of analytics programs deliver productivity or growth benefits

<table>
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<tr>
<th>Areas of Benefits</th>
<th>Analytic Solutions</th>
<th>Benefits</th>
</tr>
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</table>
| **Infrastructure Productivity** | **Analytics Simplification / BAO Foundation** | • Reduced repository footprints and data model objects  
• Rationalized too many reporting tools  
• Eliminate multiple data silos  
• Increased data quality and accuracy |
| **Business Productivity** | **Sales/Product Finance / Risk Operational Analytics** | • Lower Finance costs as a % of revenue  
• Transactional activity cost reduction  
• Sales/Product Performance and Forecasting  
• Improve channel management  
• Improve demand visibility and management  
• Improve profitability |
| **Focus on growth**       | **Advanced Customer Analytics**      | • Increased sales (cross sell/up sell)  
• Increased customer lifetime value  
• Eliminated unproductive marketing spend  
• Reduced non-productive customer contacts  
• Reduce customer attrition |
Three types of analytics programs deliver productivity or growth benefits

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<th>IBM BAO Solutions</th>
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| Infrastructure Productivity   | **Analytics Simplification / BAO Foundation** | • Information Agenda  
• Master data management  
• Data and analytics governance  
• Data integration  
• Industry data models |
|                               | **Sales/Product Finance / Risk Operational Analytics** | **Score Cards**  
• Enterprise Budgeting, Planning and Forecasting  
• Industry data model templates  
• Fraud Identification and Management  
• Supply Chain Optimization  
• Crime Information Warehouse |
|                               | **Advanced Customer Analytics**           | **Customer Segmentation and Profiling**  
• Loyalty Management  
• Cross Channel Real Time Offer Modeling and Next Best Offer  
• Customer Service Agent Matching  
• Social Networking Analysis |
Our clients are using customer analytics to answer to tough questions....

**Social Network Insights**

**Cell phone provider:** How do social networks effect churn and what are the best intervention strategies with opinion leaders?

**Customer Acquisition**

**Retail Bank:** How do we increase product ownership and deposit levels by differentiating our branch strategy and localizing our branches?

**Customer Retention**

**Large US Automotive Company:** How do we prevent customer attrition arising from discontinued models, divested brands and dealership closings?

**Brand Management**

**Consumer Products Company:** How do we revive a failing brand by better understanding consumer appetite and sentiment toward the product?

**Salesforce optimization**

**Large pharmaceutical company:** How do we focus sales reps time and promotional budgets on the physicians most likely to prescribe our branded medications?

**Marketing Optimization**

**Large Electronics Retailer:** How do we reduce $1 billion advertising budget by 40% without adversely effecting revenue?
$12 Billion Invested in BAO
Research and Development, and
Acquisitions
## Business Analytics and Optimization has grown rapidly

### GBS Services
- **BAO Strategy**
- **Business Intelligence & Performance Management**
- **Advanced Analytics and Optimization**
- **Enterprise Information Management**
- **Enterprise Content Management**

**Key Points:**
- Over 7,500 BAO practitioners growing to 8,000 in 2010
- Industry points of view
- Industry delivered solutions

### SWG Products
- **Information Agenda**
- **Cognos, TM1**
- **iLog, SPSS, Unica**
- **Infosphere, MDM and Information Server, Unica**
- **Filenet**

**Key Points:**
- Over $12B in software investments and acquisitions
- Total Solutions for BAO

### IBM Research
- **FOAK (First of a Kind)**
- **Research Advisors**
- **Analytics Patents**
- **Analytic Assets FAMS, LIFT, COBRA, CRIME INFORMATION WAREHOUSE, TACS**

**Key Points:**
- 10 years of services research
- Largest math department in private industry

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Supported by eight Analytic Solution Centers worldwide, each focused on specific business challenges.
“IBM is a good fit for clients both looking for a complete solution stack in information analysis and IM [information management] initiatives that can be complex and requiring business and technology skills in their industry”
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