Business Aligned DW Roadmap

Vince Leat
ASEAN Software Group
Discussion Topics

- Introduction
- What makes BI successful… Research into Smart Companies of 21st Century
- BI Framework
- BI Roadmap
- Case Study
Guidelines for successful BI

**Step 1:** Establish a BI Vision and Evangelize it

**Step 2:** Develop a BI Roadmap to Prioritize Initiatives

**Step 3:** Establish BI Governance & Funding Process

**Step 4:** Establish BI Competency Centre (BICC)

**Step 5:** Align Business and IT for the Long Haul

**Step 6:** Measure and Track ROI/Benefits from BI

**Step 7:** Build Trust in the System
Guidelines for successful BI

Step 2: Develop a BI Roadmap to Prioritize BI Initiatives

- Prioritize business initiatives by ROI, strategic value and ease of execution
- Overlay the cost savings from data mart consolidation and centralization
- Develop a roadmap for integration with minimum costs (funded through centralization benefits) and maximum benefits generation (through enabling business initiatives)
Step 5: Align Business and IT for the Long Haul

- Extraordinarily successful BI projects all have an enterprise scope that took years to implement. The journey requires by a close-knit team of developers and business people who work hand in hand to deliver actionable information to the users who need it.

- Ensure alignment between the business and technical development teams by use joint application development sessions to bring the two groups together to gain a common understanding.
Results of a recent survey comparing succeeding vs. struggling BI in organizations.

Enterprise Scope

Successful Sponsors

Value of Tangible and Intangible Benefits

Level of Sponsor’s Commitment

Results of a recent survey comparing succeeding vs. struggling BI in organizations.

Willingness to Fund Infrastructure

<table>
<thead>
<tr>
<th>Willingness</th>
<th>Succeeding (%)</th>
<th>Struggling (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very willing</td>
<td>38%</td>
<td>10%</td>
</tr>
<tr>
<td>Fairly willing</td>
<td>32%</td>
<td>16%</td>
</tr>
<tr>
<td>Somewhat willing</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>Not very willing</td>
<td>8%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Data Viewed as Corporate Asset

<table>
<thead>
<tr>
<th>Viewed as</th>
<th>Succeeding (%)</th>
<th>Struggling (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely</td>
<td>31%</td>
<td>9%</td>
</tr>
<tr>
<td>Modest</td>
<td>27%</td>
<td>24%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>24%</td>
<td>48%</td>
</tr>
<tr>
<td>Not really</td>
<td>8%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Time to Obtain Approval and Funding

- **Succeeding**: 7.26 months
- **Struggling**: 10.5 months

Business Driver?

- **Yes**: 76%
- **No**: 28%
- **Not sure**: 6%

Results of a recent survey comparing succeeding vs. struggling BI in organizations.

How Are Decisions Made?

- **Intuition only**:
  - Succeeding: 5%
  - Struggling: 11%
- **Intuition, supported by data**:
  - Succeeding: 41%
  - Struggling: 49%
- **Data, supported by intuition**:
  - Succeeding: 38%
  - Struggling: 51%
- **Data only**:
  - Succeeding: 5%
  - Struggling: 1%

User Interaction with Data

- **View paper reports**:
  - Succeeding: 40%
  - Struggling: 47%
- **View static online reports**:
  - Succeeding: 40%
  - Struggling: 37%
- **Navigate interactive online reports**:
  - Succeeding: 40%
  - Struggling: 39%
- **Create reports from pre-defined selection criteria**:
  - Succeeding: 40%
  - Struggling: 39%
- **Build "what if" analyses or forecasts**:
  - Succeeding: 12%
  - Struggling: 16%
- **Create reports from scratch**:
  - Succeeding: 14%
  - Struggling: 17%
- **Create statistical models**:
  - Succeeding: 9%
  - Struggling: 8%

Results of a recent survey comparing succeeding vs. struggling BI in organizations.

TDWI Report Series: "Smart Companies in the 21st Century: The Secrets of Creating Successful Business Intelligence Solutions"
BI Users Drive DW priorities.

Enterprise BI Environment

Technical Team

Extract
Clean
Model
Transform
Load

Business Users

Query
Report
Analyze
Mine
Visualize
Act

Enterprise

Data Warehouse

two single view of the customer

Data Warehousing Environment

Analytical Environment

ERP

CRM

Legacy

Others
Cross functional requirements add complexity

Effective decision making requires information that crosses organizational and functional boundaries.

**Business Information Needs**

- How tightly is customer satisfaction related to business unit performance and profitability?
- Are the most satisfied customers the most profitable?
- Are incentive systems achieving the desired results?
- How effective is the company’s strategy?
- Which parts of the business are creating value and what parts are destroying value?
- Regional compensation differences may be driving some of the business unit performance variances
- What is the ratio of customer profitability to employee incentives, by business unit, by region?
Incremental Bi/DW development with a business driven roadmap

- **Staged Implementation Roadmap**
  - Sequence driven by business needs and data availability
  - Infrastructure work diminishes over time
  - 90 day delivery phases
  - Break big phases in two

Initiation Project
- Education
- Requirements
- Enterprise Model
- Long term plan
- Pilot

3-6 months

Source: Dr. Barry Devlin, *Data Warehouse from Architecture to Implementation*, Addison Wesley, 1997, pp 315-318
What are the Business Strategy or Drivers?

Business strategies are frequently not written down or widely understood in 21st Century enterprises. Successful BI implementations uncover and document business drivers as a surrogate for a formal business strategy.

- What is the proposed business direction and strategies? By SBU? Functional area? What are the biggest business drivers for each?
- What is the current business model? Organization model? Process model?
- Who are the key information consumers? What are their key decisions & analytical requirements?
- Where are the people who will be consume information and intelligence?
- What are the “BI” implications to the business drivers?
The IBM Business Intelligence Framework

The Business Intelligence framework provides a common framework to describe your BI needs, solutions and approaches. It also includes the vision, roadmap and governance for designing a fully integrated business intelligence environment, and approaches for applying enabling technologies.
BI Strategic Framework

Translating the Strategies into tangible objectives, and supporting those objectives with a set of balanced strategic measures aligned across the organization.

Meeting regulatory/compliance reporting. Effectively communicating business strategies and performance to investors and external analysts.

Ensuring an integrated set of planning processes at strategic and operational levels are in place to maximize deployment of resources, and cascade objectives to individual performance.

Managing each core business process with quality and process indicators. Controlling each process for repeatability and sustainability.

Alignment around a common enterprise measurement & reporting vision and guiding principles.

Optimizing total business performance by managing across core processes.

Select and implement appropriate tools and Applications.

Address the critical success factors in delivering an integrated environment.

Planning, designing, and implementing a consistent agile infrastructure.

Enhancing decision making capabilities of strategic leaders, business managers, and operational associates by embedding analytical methods for advanced insight.

Support enterprise measurement and reporting with consistent and high quality data.
BI Road Map

Key Questions:

<table>
<thead>
<tr>
<th>STAGE 1</th>
<th>STAGE 2</th>
<th>STAGE 3</th>
<th>STAGE 4</th>
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</thead>
<tbody>
<tr>
<td>What is the proposed business direction and strategies? By SBU? Functional area?</td>
<td>What are the existing &amp; planned “BI” initiatives? Do they support business direction &amp; strategy?</td>
<td>What is the “BI” vision and guiding principles?</td>
<td>How are “BI” projects prioritized?</td>
</tr>
<tr>
<td>What is the current business model? Organization model? Process model?</td>
<td>How well do the technology infrastructure and analytical tools support decision making? Are the analytical processes established and embedded?</td>
<td>What are the gaps of the existing/planned analytical initiatives in supporting business direction?</td>
<td>How can the initiatives be appropriately resourced and planned?</td>
</tr>
<tr>
<td>Who are the key information consumers? What are their key decisions &amp; analytical requirements?</td>
<td>What quality and availability of the underlying data assets? What is the level of application and technology support?</td>
<td>What are some quick win opportunities?</td>
<td>What is the business case for implementation?</td>
</tr>
<tr>
<td>What are the “BI” implications to the business strategy?</td>
<td>How skilled are the people? Is the knowledge adequate in performing job functions</td>
<td>What additional projects are required to close the gaps?</td>
<td>What change programs are necessary to implement the plan?</td>
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<tr>
<td></td>
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<td>What analytical processes need to be implemented and institutionalized?</td>
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# Business Initiatives Road Map for Data Warehousing - Illustrative Key business Initiatives

<table>
<thead>
<tr>
<th></th>
<th>foundation</th>
<th>intermediate</th>
<th>advanced</th>
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<tbody>
<tr>
<td>know your business</td>
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<td></td>
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<tr>
<td>customer &amp; market profiling</td>
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<tr>
<td>cross sell</td>
<td>customer loyalty</td>
<td></td>
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<tr>
<td>customer segmentation</td>
<td>wallet share</td>
<td>acquisition</td>
<td>retention</td>
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<td>campaign profitability</td>
<td>ACB</td>
<td>Life Time Value</td>
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<tr>
<td>portfolio analysis</td>
<td>liquidity analysis</td>
<td>Basel II</td>
<td>Operational Risk</td>
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<td></td>
<td>interest rate risk analysis</td>
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</table>

**IBM Software Group**

**Business Solutions Templates (BSTs)**

- **Customer Relationship Management**
- **Financial Management**
- **Risk Management**
- **Regulatory Compliance Management**
- **Asset & Liability Management**

**IBM Banking Data Warehouse (BDW)**
### Road Map for Business Intelligence – Phase 1 CRM

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#### Customer Relationship Management
- **Customer & Market Profiling**
  - cross sell
  - customer loyalty

#### Financial Management
- **Product Analysis**
  - Channel profitability
  - campaign profitability
  - ACB
- **Account Profitability**
  - Product Profitability
  - customer profitability
  - profitability

#### Risk Management
- **Credit Risk Profile**
  - exposure analysis
  - liquidity analysis
  - Basel II
- **Portfolio Analysis**
  - NPLS
  - interest rate risk analysis
  - S & A

#### Regulatory Compliance Management
- **Cash Flow Analysis**
  - Net asset analysis
  - Income analysis
  - SOX
- **ECB Reporting**
  - Suspicious activity analysis
  - Regulatory capital
  - Equity change analysis
  - Transaction activity analysis

#### Asset & Liability Management
- **Financial Mgt Accounting**
  - structured finance analysis
  - liquidity analysis
  - interest rate sensitivity
  - credit loss provision
- **Central Bank Reporting**
  - income analysis
  - funds maturity analysis
  - net interest margin analysis
  - capital allocations

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**Note:**
- The diagram illustrates the components and strategies involved in each phase of business intelligence. Each section corresponds to different analytical and strategic objectives for improving business operations.
Road Map for Business Intelligence – CRM + Profitability

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IBM Banking Data Warehouse

- IBM Software Group
- IBM Banking Data Warehouse ("BDW")
# Road Map for Business Intelligence – CRM + Profitability + Compliance

## Business Solutions Templates (BSTs)

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## Road Map for Business Intelligence

### Foundation
- **Know your business**
  - customer & market profiling
  - cross sell
  - customer loyalty

### Intermediate
- **Enhance your business**
  - customer segmentation
  - wallet share
  - acquisition
  - campaign profitability

### Advanced
- **Optimize your business**
  - campaign management
  - retention
  - ACB
  - Life Time Value
  - event based marketing

### IBM Banking Data Warehouse
- **Portfolio analysis**
  - NPLS
  - interest rate risk analysis
  - S & A
  - market risk

### ECB Reporting
- **Suspicious activity analysis**
  - Regulatory capital
  - Equity change analysis
  - Transaction activity analysis

### Income analysis
- **funds maturity analysis**
  - net interest margin analysis
  - capital allocations
Road Map for Business Intelligence – CRM + Profitability + Compliance + Risk Management + ALM

**Business Solutions Templates (BSTs)**

- **Customer Relationship Management**
  - Customer & market profiling
  - Cross sell
  - Customer loyalty
  - Campaign management
  - Leads management
  - Account profitability
  - Product profitability
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**IBM Banking Data Warehouse (IBW)**
Road Map Case Study
The BI Roadmap presented was developed based on the results of 2 workshops which were conducted in the June 2006.

The **objectives of the first workshop was to create a target BI vision** based on feedback from participants which was key business stakeholders across the bank’s business units.

The **objectives of the second workshop was to better understand the current and target BI capabilities** from participants which was all information users across retail banking.

The **results from these 2 workshops were consolidated** to understand current BI challenges faced by the bank as well as to identify potential BI initiatives based on the bank’s business strategies. These are then **prioritized into the BI Roadmap**.
Key observations from the workshop

Yes, we **recognize that there are currently some challenges** in our BI initiatives but we **believe that BI and analytic information is a strategic asset**…

We **have big problems with our BI infrastructure** and we **CANNOT work without fixing it**…

**BI Perception Gap**

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**Key Business Stakeholders**

*across business units*

**Information Users**

(Retail Banking)

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Already understands the strategic value that BI can bring but we need to **identify and address some key BI Inhibitors** today…
BI Capability Profile supports our observations.

As part of the workshop activity, we asked the key business stakeholders to complete a questionnaire. Through the questionnaire, we performed a BI capability profile.

The profile shows that the bank's key business stakeholders feel the bank is moving towards “Developing” in most of BI capabilities today. At the same time, they feel that the should grow towards “Leading”. This indicates their belief in BI being a strategic asset.

Question 13 is the capability that scored the highest. It shows that the bank believes that the current culture provides support for informed actions based on BI to support the corporate strategy.

Question 12 is the capability that scored the lowest. It shows that employees are not aware or understand current strategies, thus the BI perception gap.
During the workshops, we used the 4 streams of work in the BDW project to assess business adoption as well as BI Inhibitors.

### Assess Business Adoption & BI Inhibitors

<table>
<thead>
<tr>
<th>Customer Relationship Management</th>
<th>Performance Management</th>
<th>Banking Data Warehouse / Business Intelligence</th>
<th>Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stabilization</td>
<td>• Gearing for business deployment in 2006</td>
<td>• Additional data for other business usages • Initiatives for other analytics accessible by the users. • Additional campaigns and data mining initiatives.</td>
<td>• Portfolio management • Segmentation • Single view of the customer • Basel II • others…</td>
</tr>
<tr>
<td>• Integration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cross-sell (Group)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Measurement of sales effectiveness and encouragement of usage</td>
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</tbody>
</table>
We found 3 main categories of BI Inhibitors, majority of which are basic BI fundamental steps…

key technical inhibitors
- BDW long load time
- Operational CRM system usability and configuration issues
- data issues (quality, availability, accuracy, tagging and coding)
- DW vs. BDW
- no access to data (profitability figures) and systems (BDW)
- disparate (and lacking of in some cases) reporting platform
- data requirements for Basel II

key capabilities inhibitors
- closed-loop campaign marketing process not in place
- lack of a central pool of competent BI analytics resources
- lack of focus of understanding customer behaviors and needs
- primarily product-push selling
- lack of multi-channel capabilities
- lack of understanding of profitability model
- no view on total group exposure

key organization inhibitors
- lack of customer service excellence focus
- yet to finalize/share/educate customer profitability
- need customer management strategy driven by customer profitability
- no central BI committee to own and drive BI-related decisions
- large number of products with no real rationalization causing integration & training issues
- no sharing of information and data across BUs
- current business priorities are around M&A
- over-ambitious in current BI initiatives causing lost of confidence across the bank
... therefore our strategy moving forward should be focused around getting the fundamentals right, in order to better leverage past BI investment.

Findings on current BI Inhibitors suggest that most are BI fundamentals

Proposed BI Strategy for the Bank

1. Get the BI fundamentals right and put in the relevant components to leverage on past BI investments
2. Build trust in the BI initiatives once the fundamentals are in place
3. Prioritize new BI initiatives based on business objectives
Based on our understanding of the Banks current situation, we propose the following BI initiatives for these BI strategies.

1. **Get the BI fundamentals right** and put in the relevant components to leverage on past BI investments
   - Stabilize the operations of the current **BDW infrastructure** and address the long data load time issue
   - Embark on an enterprise-wide **data cleansing** project addressing data quality, availability, accuracy, tagging and coding issues
   - Address the **CRM system usability** and configuration issues
   - Investigate and **assign data access privileges** to relevant information users. If necessary, construct user specific data marts.
   - Rationalize, consolidate and revitalize the enterprise’s **end-user reporting infrastructure**

2. **Build trust in the BI initiatives** once the fundamentals are in place
   - Setup a **BI Steering Committee** with relevant BI governance policies and procedures to oversee all BI initiatives across the bank
   - Review the ongoing **operational and maintenance** resources, procedures, roles and responsibilities for the BDW
   - Define and differentiate the **roles of BDW vs DW**
   - Define a **business case for BI** and actively manage and monitor progress
   - Setup relevant skills, capabilities and usage **training for different information user groups**
   - Setup a **BI Competencies Centre** so that specialized analytical skills can be shared across the bank
At the same time, we have also proposed new BI initiatives based on the banks top 3 business objectives.

Top 3 Business Objectives (based on the consolidated results of the BI questionnaire returns from key business stakeholders)

- Grow market share:
  - Deploy an analytical marketing campaign process for better targeting
  - Develop an industry-strength campaign management infrastructure that integrates with the channels to form closed-loop marketing for higher volumes
  - Utilize event-based marketing for better quality leads that address customer needs
  - Deploy multi-channel strategies and integration for common customer message

- Increase shareholders value:
  - Review CRM Roadmap and revitalize customer service focus initiatives
  - Review, finalize and deploy customer profitability model across the bank
  - Develop customer management and differentiation strategy based on customer profitability
  - Rationalize product range and product strategies

- Improve risk management:
  - Review all current risk initiatives
  - iBasel II readiness and data requirements study
  - Basel II implementations
BDW Road Map.

BI Initiatives
- grow market share
- increase shareholder value
- improve risk management

BI Enablers
- BI Steering committee & governance
- BDW ops
- BICC
- BI biz case
- BI training
- DM role review
- assign data privileges
- rationalize report infra

BI fundamentals
- BDW Infrastructure
- data cleansing
- CRM system usability

Infrastructure Roadmap
- end-user access
- BDW stabilized
- reports platform
- profitability deployed
- CRM functional
- campaign mgt
- marketing opt engine
- Basel II compliance
- BDW & DM consolidated
- compliance reports from BDW
- multi-channel

BDW & DM consolidation
- BDW roadmap, biz case and ops
- BDW & DM consolidation
- Basel II implementation (FIRB)
- Basel II readiness
- review risk initiatives
- rationalize products
- customer mgt stgy
- campaign mgt
- event-based mktg
- multi-channel strategy & integration
- analytical mktg

IBM Software Group