ROI in Data Warehouse

A fast Return in Investment in Data Warehousing

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Agenda

• The Need
• The Approach
• The Results
The Need

- The Company
- The Management/End-User Department
- The IT Department
The Company

- Maintain Market Share
- Increase Market Share
- Investigate new Areas of Business
Example Retail Industry

- Small Profit Margins
- Lots of Competition
- Customer Retention
- Database Marketing
- Investigate New Areas
  i.e.: Banking, Insurance, Travel
Factors

- People
- Technology
- Information Technology
  - OLTP
  - DW and BI Systems
OLTP and DW/BI Systems

• OLTP
  – Save Money
  – Stay in Business
  – Same for Department/Industry
  – Short Term Mission Critical
  – A Differentiator?
OLTP and DW/BI Systems

• OLTP
  – Save Money
  – Stay in Business
  – Same for Department/Industry
  – Short Term Mission Critical
  – A Differentiator? NO!
• DW/BI Systems
  – Long Term Mission Critical
  – Make Money
  – Increase Business
  – Need Company Background
  – A Differentiator?
OLTP and DW/BI Systems

• DW/BI Systems
  – Make Money
  – Increase Business
  – Need Company Background
  – Long Term Mission Critical
  – A Differentiator?
Management/End-user Department

- Wider and Wider Spread of Employees Need Information to do their Jobs Effectively
- Business Solutions
- Reliable Information
- Consistent, high quality Data
- Information Right Now
Management/End-user Department

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“Measurable Results in 90 Days”
IT Departments

- Data Warehousing
- Solid Strategy
- Proven Methodology
- Fitting into IT Architecture
- Different Needs, Different Skills
- Manageability
- Ensuring repeatable, maintainable Results
IT Departments

- Data Warehousing
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“Rapid Data Warehousing”
The Approach

- Business Focus with Strong IT Delivery Capabilities
- Rapid Warehousing Methodology
- Specialist Knowledge form SAS Institute
Business Focus with Strong IT Delivery Capabilities

- Data Storage Focus
- Integrated Process Focus
Business Focus with Strong IT Delivery Capabilities

- Data Storage Focus
- Integrated Process Focus
- Big Bang Project Approach
- Focused Repetitive Rapid Delivery
Evolutionary Project Cycles

- Start small / focused with measurable Results
- Reuse positive Experience to extend
- Ultimate Goal: Corporate Warehousing Usage

Verify

Evaluate

Select

Implement
Business Focus with Strong IT Delivery Capabilities

• Data Storage Focus
• Integrated Process Focus

• Big Bang Project Approach
• Focused Repetitive Rapid Delivery

• Best-of-Breed Consortiums
• End-to-End Solution Providers
Data Warehousing Strategy
Best of Breed View

<table>
<thead>
<tr>
<th>I Analysis of Business Needs</th>
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<tbody>
<tr>
<td>VI Exploiting the Data repository - Tools Selection</td>
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<td>IV Design Data Repository</td>
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<td>III Transform Logic</td>
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<tr>
<td>V Physical Connections and Extraction</td>
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<tr>
<td>II Analysis of Operational Data</td>
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Information Users - Many needs, Many Activities

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<th>Information Applications</th>
<th>Groupware</th>
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Transformation, Scrubbing and Quality Control: Organise Data by Business Subject

OOAD, Client/server Model

Data Repository

Operational Systems
Data Warehousing Strategy
An Architected View

I Analysis of Business Needs
II Analysis of Operational Data
III Transform Logic
IV Design Data Repository
V Physical Connections and Extraction
VI Exploiting the Data repository - Tools Selection

Information Users - Many needs, Many Activities

- Information Applications
- Groupware
- Operational Applications
- Personal Tools
- Web

Data Repository

Transformation, Scrubbing and Quality Control: Organise Data by Business Subject

Technology and Tools
The Rapid Warehousing Methodology

- Justification
- Requirements Gathering
- Design/Modeling
- Implementation
- Review
An iterative development methodology

- Justification
- Requirements
- Implementation
- Review
- Assessment
Specialist Knowledge

- Concentrate on Information Delivery
- Number of Developers
- 32% R&D Spending
- Experience
With no sliver identified

Sliver has been selected

Sliver has been defined

Sliver has been implemented

Customer Services Departments

Consultancy Department

Product Managers

Data Warehouse Support Team

Sales and Sales Support

Consultancy Department

Sales and Marketing

Initiate DW Project

Select a Sliver

Define a Sliver

Implement a Sliver

Develop Reference Site
The Results

- Definition of ROI
- IDC Study Results
- Examples
One Way to Define ROI

Return of Investment = \[
\frac{\text{Present Value of Benefits}}{\text{Present Value of Costs}}
\]
Study Details

• ~ 1200 Initial Sites
• ~ 250 SAS Institute Customers
• ~ 60 Interviews
• ~ 14 Different Industries
• ~ 23 SAS Institute Customers
<table>
<thead>
<tr>
<th></th>
<th>Enterprise</th>
<th>Discrete</th>
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<tr>
<td>Average ROI</td>
<td>321 %</td>
<td>532 %</td>
</tr>
<tr>
<td>Median ROI</td>
<td>147 %</td>
<td>332 %</td>
</tr>
<tr>
<td>Average Payback</td>
<td>2.73 years</td>
<td>1.57 years</td>
</tr>
<tr>
<td>Median Payback</td>
<td>1.91 years</td>
<td>0.94 years</td>
</tr>
</tbody>
</table>

References

- Retail
- Oil & Gas
- Insurance
- Banking
- Telecoms
- Public Sector
- Manufacturing
Retail Industry

Westdeutsche Handelsgesellschaft

The Need: strengthen its dominant position in the procurement market

The Issue: a range of tools provided part of the information but it took too long to turn data into information

The Solution: implement data warehouse, deliver operational data relating to company’s operation to mgmt.

The Benefit: SAS Data Warehouse enables WHG to make reliable business decisions in day-to-day operations
Oil & Gas Industry

A/S Norske Shell

The Need: operating the Draugen oil field which is estimated to remain in production until 2030

The Issue: good financial planning and control needed, a wide range of variables from different sources affect the calculations

The Solution: an information technology solution which was robust and structured to handle complex calculations, but is also flexible to enable redesign

The Benefit: a comprehensive solution, providing a wide range of information for an optimised planning process
Insurance

LVM

The Need: Opening to international competitors = Faster reaction at lower cost
The Issue: Variety of questions prevents data standardisation, decentralisation too expensive
The Solution: Very large, centralised collection of corporate data, user driven aggregation
The Benefit: 12% annual growth at under average administrative cost
Banking

Bayerische Vereinsbank

The Need: all-round banking services = high volume of partly overlapping queries
The Issue: individual query treatment eats away expensive IT resources
The Solution: intelligent metabase to eliminate overlappings
The Benefit: drastic resources saving allows user growth from 200 to 2000. ROI: 798 %
MTN

The Need: monitor service providers performance to improve customer satisfaction

The Issue: massive volume of commercial raw data “buried” in mixed hierarchical and relational models

The Solution: dig out elementary data and store it in a coherent, unified model

The Benefit: “being able to show our providers how they perform gives us a competitive edge: customer satisfaction”
Public Sector

Gloucestershire Constabulary

The Need: monitor performances against government targets
The Issue: disperse sources prevented analysis of influence factors
The Solution: integrate different sources into single information
The Benefit: gap Performance vs. Target decreasing ROI: 249 %
LTV Steel

The Need: operate at maximum capacity over an extended period of time to be more efficient

The Issue: a merger of 4 companies generated a complex IT infrastructure, it took a long time to covert data into information (between 1 day and 3 weeks), reports had to be provided by IT

The Solution: a data warehouse reduces the time spent for data collection, most end-user can run the reports themselves now

The Benefit: ROI: 16995 %
Summary

- Business requires knowledge
- Business Intelligence is a Process with its own requirements...
- Data Warehouse is not just...
- There is not ONE Data Warehouse...
Summary

• Data Warehousing Delivers....

It is important to have the right team:

• People
• Experience
• Software/Hardware
References

• The business case for improved management information
  Martin Burge, Halifax Building Society
• How auditing the business process leads to bottom line
  benefits
  Ian Huckle, Ernst & Young
• The Rapid Warehousing Methodology
  Jennifer Major, Al Sim, SAS Institute