



Calculating ROI for Business Intelligence Solutions in Small and Mid-Sized Businesses

Introduction

Successful business intelligence implementations can unlock key information within a company's data vaults and enable organizations to operate more effectively and profitably. According to a recent AMR profile on Small and Mid-Sized Business (SMB) IT spending, the top business initiative impacting IT decisions was "better utilization/analysis of data throughout the organization."¹

For many companies, a challenging business event or critical business pain precipitates a conversation about Business Intelligence (BI).

Challenging business events include:

- Period of rapid growth
- Recent or pending merger/acquisition
- Introduction of new products and product lines
- Upgrades to the IT environment (e.g. ERP upgrades).

Critical business pain points include:

- Sudden decrease or negative trend in profit margins or revenues
- Unpredictable quarter-end financial results
- Inventories increasing faster than sales
- Customer dissatisfaction due to poor product availability or late deliveries
- User demands for better, more complete information.

These scenarios call for a precise view of the business situation, which usually involves locating, extracting, and organizing data into a repository to support analysis.

Value and Benefits of a BI Solution

Many companies rely on a tangled web of Excel spreadsheets and Access databases to provide information and manage their business. These applications are popular because they often allow business units to design reports to their own specifications without IT resources. Excel experts can create customized reporting templates and perform amazing feats of analytics. However, there are many significant risks involved if your business becomes reliant on user-generated spreadsheets and one-off databases:

- Compiling the data usually consumes more of an employee's time than the decision-making it supports
- Spreadsheet manipulation is time-consuming for the business units and is often prone to user errors
- Spreadsheets created by each functional area propagate multiple versions of the truth
- Metrics and data about the business should be in the hands of *all* who need it, not just limited to the expert data analysts
- Spreadsheets don't scale! As your business grows, spreadsheets and databases only become more complex and harder to manage.

When faced with a compelling situation, organizations must quickly make strategic and tactical decisions. By implementing a robust BI solution, your company gains:

¹ AMR Research, "U.S. SMB IT Spending Profile, 2006-2007"

- One shared view across your company for ALL associates — from executives to functional teams
- A single source system for *accurate* financial and operation information that is readily accessible by all departments
- Flexibility and scalability to grow and change with your company
- Insights to understand your business performance and opportunities on a much deeper level.

Financial Justification and Evaluation of a BI Project

Building an ROI is a key component of ensuring your project is focused on the right areas and the company's investment is justified. The process should bring both business and IT owners to the table to jointly assess risks, costs, and benefits to form the business case. Justifying the project actually serves multiple purposes:

- Helps a company understand the scope of its implementation and prevents "scope creep" in later project stages
- Creates a focus on anticipated outcomes and benefits
- Creates a framework for sound financial management and value creation
- Helps a company monitor their actual results against the expected impact
- Provides feedback mechanisms to refine and revise business strategies and technical activities.

Developing the Framework for ROI Analysis of BI Applications

Organizations often struggle to create business and financial cases because they do not consider all of the costs and benefits, and often lack a good starting point. We have developed a robust framework to help companies scope, justify, and measure the benefits of a BI project in order to maximize value and return. The following framework highlights four key ROI components to consider when building your business case:

- **Business Value**

Visibility into business operations can yield previously-unknown insights. Without having an integrated view of the business, functional areas make decisions without having all of the relevant data they need to understand the company-wide impact of their decisions. With *one place to go for one version of the truth*, business units are aligned on the business' performance to make more informed and timely decisions.

Business intelligence solutions can deliver extraordinary value by providing the necessary information to make strategic and tactical decisions in three major areas:

1. revenue, pricing, and profitability
2. customer satisfaction, retention, and acquisition
3. operational efficiency and excellence.

- **BI User Productivity**

By simultaneously providing consolidated business reporting and improving the quality of data, companies can empower employees with the information

they need to work more effectively. Users no longer need to chase down data, reconcile different versions, and follow the data trail. Business intelligence provides business users with self-service access to enterprise data in real-time.

- ***IT Effectiveness***

With a jungle of dated, home-grown legacy applications, multiple enterprise and departmental systems, and databases living in every corner of every office, IT organizations often have to spend more time *maintaining* the systems than *developing* new solutions for the business. With a robust, self-service BI solution in place, IT departments can reclaim valuable time that can be spent on strategic initiatives versus the never-ending daily data requests.

- ***Total Cost of Ownership (TCO)***

When evaluating different solutions, it is important to consider all the upfront and ongoing fees associated with your Business Intelligence implementation, including consulting, software and licensing, hardware, training, maintenance, upgrades, and support. Often companies focus on the upfront hardware and software costs but neglect to consider the substantial costs of Extract, Transform, and Load (ETL) work, database configuration, enterprise architecture management, and user training when the business grows or changes requirements.

For small- and mid-sized companies, a Software-as-a-Service (SaaS) implementation can yield a lower total cost of ownership and a more compelling return on investment. By choosing SaaS, companies can shift implementation risks to the software vendor and scale more quickly since hardware, software, and data architecture expansions require minimal internal IT resources. (See Appendix A)

Our framework quantifies the value creation of Business Intelligence for your organization's "shareholders" by detailing opportunities to *increase revenue*, *lower costs*, and *improve asset utilization*. Following, we share some specific value drivers that provide line item benefits (and costs) for the ROI calculation.

Business Value

Business Value	Revenue	Cost	Assets
Revenue / Pricing / Profitability	<ul style="list-style-type: none"> • Identify profitable and unprofitable customers to make necessary changes • Identify opportunities to cross-sell products and services • Reduce lost sales from out of stocks • Optimize pricing across products and product lines 	<ul style="list-style-type: none"> • Understand customers service costs to adjust pricing or service levels • Gain clear, accurate view of different cost centers to understand savings opportunities, including vendor consolidation or low-cost material or service alternatives 	<ul style="list-style-type: none"> • Understand inventory positions and holding costs for different products or customers to align with target service levels • Monitor cash conversion cycle to achieve target levels • Understand maintenance and costs for major fixed assets/capital equipment to lower total cost of ownership
Customer Satisfaction / Retention / Acquisition	<ul style="list-style-type: none"> • Better selling of products and services to increase lifetime value of customers • Meet or improve target service levels to customers in order to become a higher value vendor/partner • Provide customers with accurate information quickly, resulting in higher retention and sales 	<ul style="list-style-type: none"> • Reduce marketing efforts/costs to retain customers • Reduce costs related to expediting, error correction, and customer dissatisfaction • Reduce penalties for delayed shipments • Increase customer acquisition effectiveness 	<ul style="list-style-type: none"> • Better monitor and align inventory and customer support teams to desired customer service levels
Operational Efficiency / Effectiveness	<ul style="list-style-type: none"> • Improve order-to-cash process through better visibility 	<ul style="list-style-type: none"> • Pursue lean process (e.g. manufacturing, engineering) targets through better visibility into process status, bottlenecks, and key issues • Optimize direct and indirect procurement • Reduce overtime costs with greater visibility to upcoming labor demand • Reallocate labor resources 	<ul style="list-style-type: none"> • Lower inventory holdings • Utilize manufacturing lines, warehouses, plants, trucks more effectively

BI User Productivity

Business Value	Revenue	Cost	Assets
BI User Productivity	<ul style="list-style-type: none"> Gain additional time to focus on customers and business growth initiatives 	<ul style="list-style-type: none"> Access required information more quickly Fewer Excel experts needed to manipulate data and manage spreadsheets Consolidate reporting — one place to go for information; fewer reports to review Ability for users to interrogate data and find root cause, reducing business/IT disruptions 	<ul style="list-style-type: none"> Reduce data marts, Access databases, and servers that are maintained by the business units Reallocate individuals tasked with managing and manipulating multiple data sources

IT Effectiveness

Business Value	Revenue	Cost	Assets
IT Effectiveness	<ul style="list-style-type: none"> Offer consolidated reporting as a service to vendors/suppliers Reallocate IT staff onto higher value, strategic projects that impact company growth 	<ul style="list-style-type: none"> Lower staff turnover Spend less time retrieving and massaging data for the business 	<ul style="list-style-type: none"> Decrease business requests, resulting in less maintenance and utilization of hardware

Total Cost of Ownership (TCO)

Business Value	Revenue	Cost	Assets
Total Cost of Ownership	<ul style="list-style-type: none"> Reallocate IT funds to corporate growth initiatives 	<ul style="list-style-type: none"> Reduce initial implementation costs including data architecting, database design, systems integration, data cleansing, data mapping, and tool configuration Reduce cost of initial software license procurement and ongoing maintenance Reallocate IT staff that maintain and operate current systems Reduce training costs and on-going user support resources Scale cost-effectively for more reports / business units 	<ul style="list-style-type: none"> No capital expenditures on hardware for servers, storage, and back-up No need to capitalize massive costs of implementation

Parting Thoughts

As your organization builds a business case for BI, consider these final thoughts from a holistic point of view:

- The framework that has been outlined is exactly that — a *framework*. However, it does provide cost and benefits to calculate, questions to ask, and business areas to consider. Each company's pains and opportunities will be different; let the business context dictate the ROI model.
- Business intelligence is an *enabler*, not a panacea. However, it does allow an organization to leverage its own data with greater sophistication and precision. Organizations can better understand and manage the business by unearthing root causes and monitoring actions and results.
- Do not underestimate the “soft” benefits. Many companies later find that the increased accessibility and visibility to business information allows employees to generate insights via increased innovation, learning, and collaboration.

APPENDIX A

Sample TCO Calculation for a Software as a Service (SaaS) vs. Traditional BI Implementation

TCO	Traditional BI		Annual TCO After Year One	Traditional BI	
	BI	SaaS		BI	SaaS
BI/PM Application License	250,000	250,000	BI/PM Application License (Maint.)	45,000	—
Data Integration License (ETL)	200,000	—	Data Integration License (ETL)	36,000	—
System Integration Costs	750,000	—	System Integration (Maint.)	50,000	—
Database License	100,000	—	Database License (Maint.)	18,000	—
Infrastructure/Hardware	100,000	—	Infrastructure/Hardware	—	—
Internal IT Personnel	300,000	25,000	Internal IT Personnel	100,000	25,000
Training	100,000	25,000	Training	25,000	25,000
Support/Subscription Fees	11,000	60,000	Support/Subscription Fees	—	60,000
TOTAL	\$1,910,000	\$360,000		\$274,000	\$110,000

Cost-savings over 5-year horizon for a SaaS vs. Traditional BI Implementation

	Traditional BI cost	SaaS cost	\$ Savings of SaaS	% Savings over Traditional BI
Implementation / Year 1	\$1,910,000	\$360,000	\$1,550,000	81%
Years 2-5	\$1,096,000	\$440,000	\$656,000	60%
TOTAL	\$3,006,000	\$800,000	\$2,206,000	73%

Source: Oco

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About Oco

Oco, based in Waltham, Mass., provides essential business visibility, delivering one integrated set of actionable reports from any source to any user in just six weeks. Oco's comprehensive solution dramatically reduces the timeframe, cost and risk of traditional business intelligence implementations with deployment on a fixed-cost, fixed-time basis and a money-back guarantee.

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