

# ePartnersBI

Business Intelligence Series

## **Build the right Business Intelligence Plan:**

A management's guide to creating a plan that maximizes your return on Business Intelligence.

~ by Dr. Dwayne M. Gunter



Collecting and reviewing data has been a part of decision making for thousands of years. Egyptian scribes recorded inventory for their masters using a stylus on a clay tablet. Today, we take advantage of computers and business applications to do fundamentally the same thing on a larger scale. Unfortunately, our fervor for data collection regularly outpaces our ability to break it down and act upon it. In short, we need to be as aggressive about managing our information and utilizing it to improve decision making as we are about collecting it.

**The purpose of collecting information is not for the act of acquiring but lies in the art of translating the acquired knowledge into wisdom about how the organization is performing against established goals and purpose for existence.**

Sound simple? Conceptually, it is. The idea of leveraging transactional data to improve decision making is rarely lost on business leaders. For the last two decades, corporate America has taken the initial steps by investing in software applications designed to provide “Enterprise Resource Planning”, “Customer Relationship Management”, “Project Management” and scads of other corporate functions. The good news is that most of these systems are collecting and processing the valuable information for which they were designed and even yielding some level of decision support information.

The bad news is that most organizations operate without a logical framework for recognizing and extracting relevant business intelligence. Much of the potential gain simply gets lost in the shuffle. Given the proper perspective and planning, we can effectively leverage these systems to gain competitive advantage.

The remainder of this paper outlines a simple approach to creating a relevant business intelligence strategy and a tactical framework to build on. This includes processes for determining your business intelligence needs, recognizing tools you already have in place, mapping out your path and ultimately showing a quantifiable return on your investment.

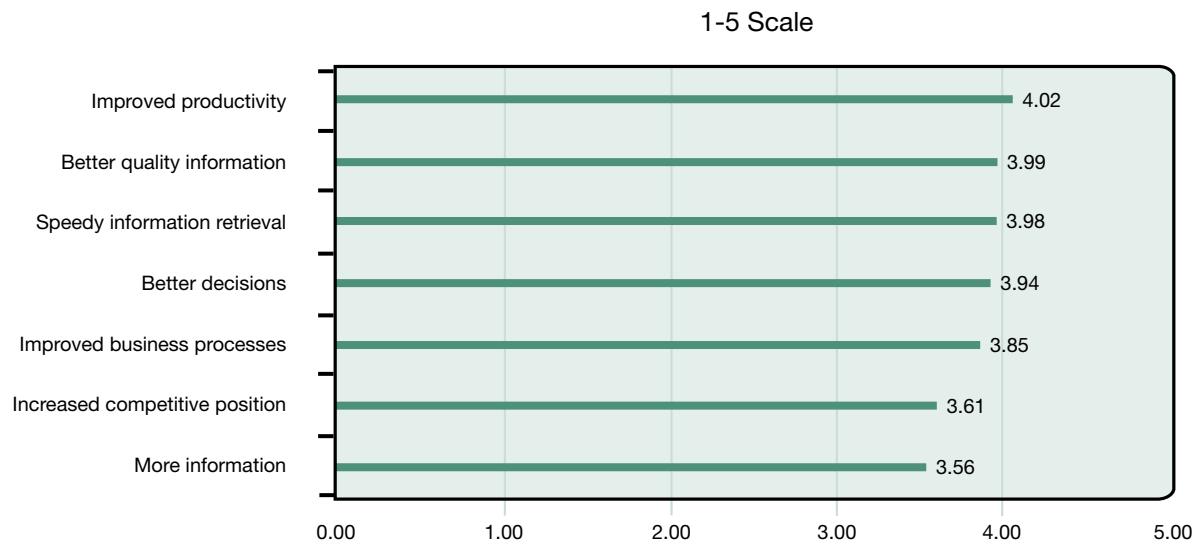
## Do you need a Business Intelligence solution for your organization?

I think the better question is, can you afford to not have a business intelligence solution within your organization? We can only make decisions that align with the goals of our organizations by having the right information at the right time. The purpose of today's business intelligence solution is to provide access to useful information in a timely manner to help make better decisions.

Organizational readiness, addressed later in this paper, can be a deciding factor in the decision to invest in a business intelligence solution. Business intelligence solutions are designed to help you extract pertinent information from data collected by various software systems. Companies that do not rely heavily on software systems typically have less data to work with and are less likely to make the most of such an investment.

Companies that have already invested in financial, selling, point of sale, manufacturing and other systems are often only realizing the transactional and functional benefits of their investments. These organizations are prime candidates and find that a business intelligence layer helps them realize a greater return on their overall technology investments. Since most business intelligence solutions are designed to aggregate data from disparate systems (even where the foundational technologies are at odds), the right solution can foster collaboration as well as insight into the business.

To this point, we have focused on the decision support and the analytical benefits of implementing a business intelligence framework. A research study (Hwang and Xu, 2005) recently analyzed the following benefits of a business intelligence (data warehouse) solution. Business leaders that had invested in business intelligence were asked to rank the significance of several criteria on a 1-5 scale:



Speed, better quality of information, and improved productivity ranked the highest with better decision making and improved business processes not far behind. The tight grouping of such a wide range of benefits shows us how effective these solutions can be at both strategic and tactical levels.

Organizational alignment, collaboration and top down endorsement are paramount. Your executives and managers will need to rally around the development of your business intelligence solution if it is to be a success. The table below outlines a number of keystone factors like having clearly defined business needs and quality of source data.

Some of the criteria below can be managed by selecting the right technology partner, but others need to be managed internally. Organizations that attempt to create a business intelligence layer without “Top Management Support” or “Clearly defined business needs” are seldom satisfied with the outcome. What kind of reaction would you expect from your management team? Would they view a business intelligence engine as a “necessary evil” or a “competitive advantage”?

	1-5 Scale	Significant	Very Significant	Extremely Significant
Clearly defined business needs/benefits	4.01	18.4%	38.8%	35.7%
Source-data quality	4.01	19.4%	38.8%	35.7%
Measurable business benefits	3.86	34.7%	25.5%	33.7%
Proper development technology	3.84	28.6%	43.9%	22.4%
Top management support	3.79	25.5%	39.8%	24.5%
User involvement/participation	3.78	31.6%	40.8%	22.4%
Adequate funding	3.78	20.4%	42.9%	28.6%
Project management (teamwork)	3.73	33.7%	40.8%	19.4%
Adequate IS staff and consultants	3.71	41.8%	31.6%	22.4%
Practical implementation schedule	3.61	41.8%	34.7%	15.3%
Proper planning/scoping of project	3.57	35.7%	40.8%	20.4%

Table 1. Responses on the Critical Success Factors of Business Intelligence (Data Warehousing)

So, let’s put this all together. Do you need a business intelligence solution in your organization? Based on historical research it is hard to ignore the results. Leaders in most business categories are already utilizing some sort of business intelligence framework to create competitive advantage. The ability to effectively monitor, analyze and even predict future change is becoming the norm.

The fact is that you are probably already making investments in business intelligence. Read on to better understand the scope of business intelligence and what tools you may already have in place.

## Embracing Business Intelligence (BI)

Business Intelligence solutions can be defined a number of ways, but are best described as applications and technologies used to aggregate and analyze data and information about company operations (sales and marketing metrics, production, customer activities, internal operations, etc...).

A typical business intelligence solution will include a number of technologies. The application software will be dependent on existing and planned functional systems and depth of business intelligence you require. You will find solutions that focus on performance monitoring and management, supply chain, finance and budgeting. Others focus on process engineering and competitive analysis. The presentation of information may come in the form of "digital dashboards", "scorecards", "executive information systems" and others. The choices are endless.

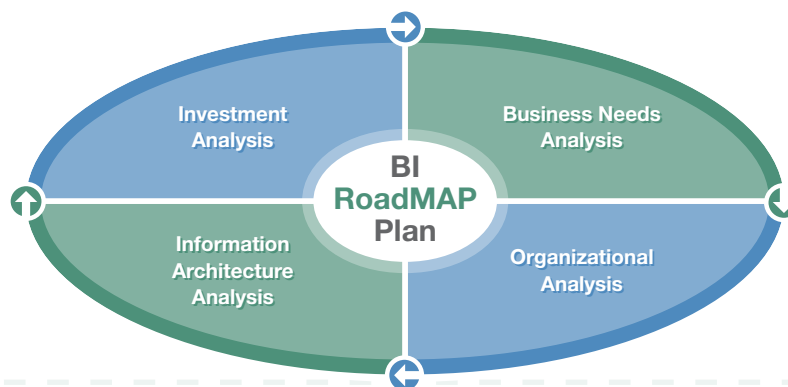
These solutions can have an enormous impact on a company's ability to perform. The key to maximizing that impact is comprehensive planning and ensuring alignment with the overall corporate vision.

How are you supposed to manage all of this and still run your business? The sheer number of options and rapidly changing technology can turn the process into a logistical nightmare. As a result, we're often forced to make decisions that are outside our experience and training. Use the "BI RoadMAP" framework outlined in the next section to visualize business intelligence tools that already exist in your organization and better understand the process of maturing and augmenting them. Engaging a proven business intelligence partner to manage the process is usually the most direct path to success.

## What is a BI RoadMAP Plan?

The BI RoadMAP process is designed to provide leaders with a clear understanding of the process required to successfully implement a business intelligence solution within their organization. Utilizing the BI RoadMAP process involves several components. What is interesting is that many organizations have started their BI RoadMAP and don't know it. If you are running financial statements, sales reports, or Microsoft Excel® spreadsheets, you are doing business intelligence. The BI RoadMAP process is unique in its approach to building a solid business intelligence plan. While the BI RoadMAP process begins with a Business Needs analysis, it takes all the information and then creates a phased plan approach centered on three types of business intelligence: Monitoring intelligence, Analytical intelligence, and Predictive intelligence.

Users of the BI RoadMAP process should remember that the objective is to make sure that business intelligence investments are aligned with strategic business goals. The components within the BI RoadMAP process include Business Needs Analysis; Organizational Analysis; Information Architecture Analysis; and the Investment Analysis. The BI RoadMAP process is a continual process. The plan should be evaluated on a regular basis to adjust to changes within the organization and changes in the marketplace.

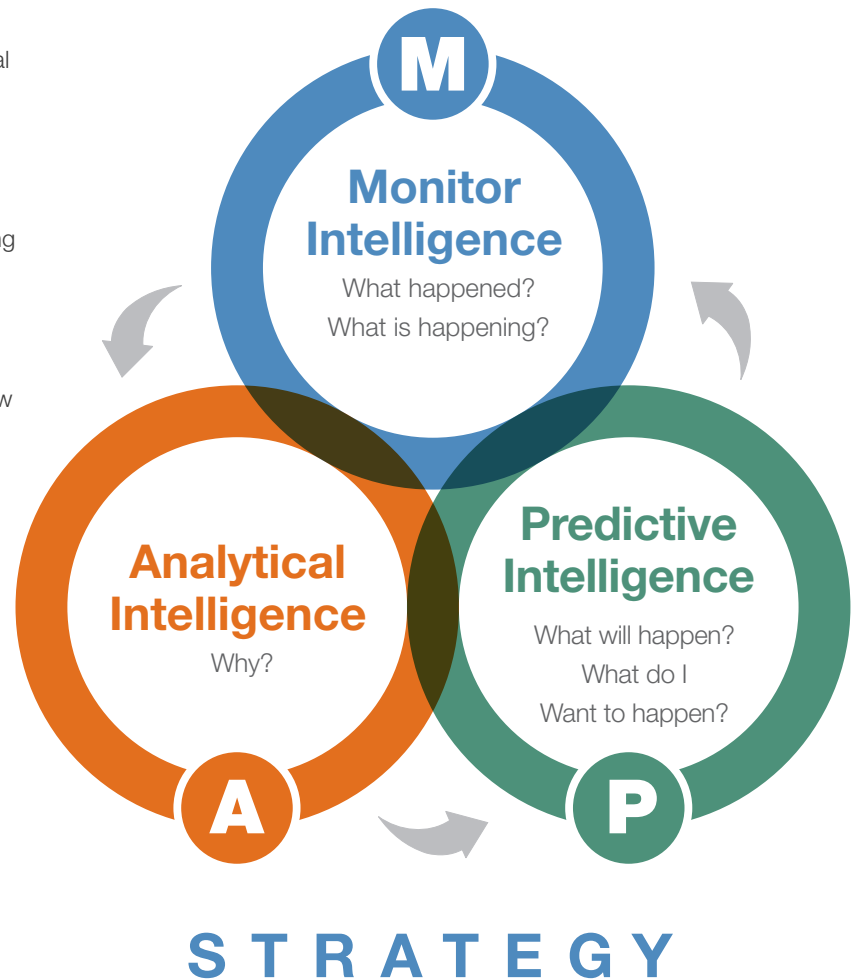


It is important to note that the BI Roadmap process is not linear even though our efforts typically begin with monitoring and analytics. Monitoring represents the shortest route to utilizing data to provide business intelligence. The tools and the planning for analytical and certainly predictive intelligence become more complex and require longer term planning. Read through the simple definitions below and try to identify current efforts that align with each of the definitions. This will help you put the pages that follow into perspective.

**Monitoring Intelligence:** has to do with what happened? What is happening? This includes financial statements, operational reports, smartlists, business alerts, and any other point-in-time information within a company.

**Analytical Intelligence:** has to do with understanding why something is happening. Analytical intelligence capabilities allow decision makers and end users to understand the drivers behind the information. One way to explain this is, "You have the numbers and now comes the challenge... answering why it is happening and what do you do to fix it?"

**Predictive Intelligence:** Once an organization understands what happened and why something happened, the next logical step in the BI process is to be able to answer what will happen. This area of the BI RoadMAP has to do with data modeling. The art of creating Predictive Intelligence comes from the ability to assimilate business objectives, customer behaviors, and other influencing internal and external factors to establish the context for and the application of Predictive Intelligence. The ability to do trending and forecasting is a starter phase for Predictive Intelligence.



BI Solutions are dependent on the following factors

- > Leadership
- > Competition
- > Environment
- > Internal Technology
- > Internal Operations
- > Internal Users
- > Customers
- > Knowledge of Business Drivers (metrics)

## Steps to complete BI RoadMAP Plan:

**Step 1:** Conduct the Business Needs Analysis.

**Step 2:** Complete the Organizational Analysis.

**Step 3:** Finalize the Information Architecture Analysis.

**Step 4:** Create the BI RoadMAP Plan from what you've learned in steps 1-3.

(Create a list of outputs needed to provide the required business intelligence information. Using the outputs create a plan with timeframe, resource requirements and technology requirements based on the monitoring, analytical, and predictive intelligence requirements.)

### Step 1: Business Needs Analysis

The objective in conducting a business needs analysis for creating a BI RoadMAP Plan is to gather what is needed to effectively develop metrics and key performance indicators that align with the strategic objectives of the organization. The information gathered during the business needs analysis will be the key to successfully implementing a BI RoadMAP Plan.

#### Steps to completing the Business Needs Analysis:

**Step 1: Interview team members for information and input.**

**Step 2: Make a list of current business objectives and Key Performance Indicators (KPIs).**

To create the objectives here are some sample questions

- > What are the most critical priorities this year?
- > What metrics are used to measure these critical priorities?
- > What information do you need today that you currently don't have?
- > What information do you have but you need more quickly?
- > What barriers will cause you to miss your business objectives and what information do you need to address these barriers before they become a problem?

- > Are you getting the information you need to run a competitive business? If not, why not?
- > What information do you need to know about your customers?
- > What information about sales data?

**Step 3: Prioritize the business objectives and KPIs into a list.**

**Step 4: Create a list of benefits a BI solution will have to the organization based on the Business Objectives and the KPIs.**

**Step 5: Conduct a high level infrastructure review.**

- > A more detailed infrastructure review will be completed in the information architecture analysis

**Step 6: Discuss and review with key stakeholders for confirmation on findings.**

## Step 2: Organizational Analysis

Historically, executive teams have asked the IT Department to go build a data warehouse and provide a business intelligence solution back to the company. As a result, the organization has considered BI Solutions an IT project rather than an organizational project. In addition, the organizational perspective is often ignored when developing a BI plan. Not factoring in the organizational perspective could be the difference between success and failure with business intelligence.

### Steps to completing the Organizational Analysis:

#### Step 1: Demonstrate leadership involvement.

Leadership is vital for the realization of the synergy between the overall business plan and the business intelligence plan. Many times a leader will make a purchase decision on business intelligence only to be out of the process when the implementation begins. Members of the organization will usually rally around the BI plan when members know that company leadership is 100% behind the initiative. During the course of a BI plan rollout, bumps in the road naturally occur when significant change is occurring within an organization. It is vital that the leadership is involved to push and motivate the team members not to give up. In addition, it is extremely important for decision makers to be a part of determining the business objectives and KPIs that are critical to the business.

#### Step 2: Get team members involved in the project.

The team members are the people that can best identify the benefits of a BI solution. The IT team can't own the results of the BI solution. It must be a team effort.

#### Step 3: Understand the implementation and deployment strategy for new BI solutions.

Organizations must know what burden will be placed on existing team members. Implementing BI should not occur without a plan of required milestones and activities needed to implement the technology successfully. The strategy should also include a plan for support and maintenance of the technology.

**Step 4: Embrace change.** Change that addresses key business issues will result in a better organizational culture, and should not be feared.

#### Step 5: Examine the organizational structure.

Need to ensure that the BI Roadmap has broad coverage across the organization and that key business drivers are included.

#### Step 6: Align business metrics results with compensation packages for team members.

One effective way to drive team member accountability to the BI Roadmap solution is to align compensation with the BI Scorecard results.

## Reasons BI Initiatives Fail

- > Inadequate user involvement
- > Insufficient funding
- > Organizational politics
- > Weak sponsorship and/or management support
- > Wrong or poorly analyzed project scope
- > Data problems
- > Problems with end-user access tools
- > Poor choice of technology
- > Scope creep
- > Turnover of organizational personnel

(Watson, et al., 1999)

### Step 3: Information Architecture Analysis

It is very important to begin your BI RoadMAP process by understanding the business needs and the overall requirements of the organization. However, a BI RoadMAP must analyze the current information architecture with an understanding of what is needed to deliver the right business intelligence information. The information architecture analysis is based on three components: infrastructure, data, and the BI products & tools.

#### Steps to completing the Information Architecture Analysis:

##### Step 1: Infrastructure:

- > Review existing applications
- > Review existing hardware
- > Create a flowchart of all current applications and databases
- > Review organization's technical environment from the viewpoint of the BI RoadMAP information
- > Review the current strategic technical plan
- > Review current IT staffing to make sure the organization has expertise to manage the ongoing BI solution

##### Step 2: Data:

- > Identify any existing data warehouses, data marts
- > Define the data needed to meet business needs analysis results
- > Summarize the delta between the existing data storage and required data to execute BI RoadMAP Plan
- > Identify source of required data with specific focus on the completeness and quality of the data
- > In the end, make sure the BI architecture reflects the objectives of the business

##### Step 3: BI Products & Tools:

- > List all the products needed to implement the BI RoadMAP solution
- > Identify products prices and implementation costs plus ongoing maintenance costs

### Step 4: Create the BI RoadMAP Plan

Once you have successfully analyzed the business needs, organization, and information architecture, you are ready map out your business intelligence plans using the BI RoadMAP as a framework. Existing and planned decision support points can be mapped to (or from) the roadmap to provide clarity of process and to help weigh the importance and urgency of each.

The real value to this mapping technique is in its simplicity. Historically, business intelligence initiatives have been centered on development tools and business intelligence applications. The technology, instead of business needs, ends up driving the process. Decision makers scratch their heads in confusion and waste valuable time trying to figure out how it all applies to their day-to-day needs. Likewise, many decision makers have a difficult time determining how to get from Step 1 (where I am today) to Step 2, Step 3, and so on.

The RoadMAP provides an objective way to structure the individual elements of your overall business intelligence initiative. Remember, this is an iterative process. A first pass at mapping out your organization's monitoring, analytical and predictive BI needs will bring order to things you've identified in the discovery process. As you move forward, you'll find that this framework will help you more quickly recognize ways to enhance existing elements and recognize new ones.

**Business Intelligence is not a one time implementation of a set of tools. It is a journey that must begin with a roadmap that is focused on the strategic objectives of the organization.**

## Investment Analysis

Conducting a Return On Investment (ROI) analysis is a method that does help validate whether or not the investment is aligned with the business needs of the organization. However, there is a real challenge to measure the true ROI of a business intelligence solution. The challenge doesn't lie necessarily in calculating the costs but rather quantifying the benefits.

**Number crunching executive teams waiting on a concrete (perfect) ROI number before deciding to begin the journey toward a BI solution may never get started. It is as much an art as it is a science. It is not about perfection.**

There are many different dimensions which must be considered when considering an ROI review of business intelligence:

- > Costs include labor (internal and consulting), hardware, and software.
- > Benefits
  - Two types of variables must be measured when evaluating benefits within the investment analysis: tangible and intangible measures. Tangible measures are usually much easier to identify and measure. The intangible variables are more difficult to measure because they usually cannot be directly observed. For example, by implementing the recommended BI solution, a company may determine that it will accelerate cash collections within accounts receivable by having the right business information available in real time. Then management must determine the benefit to cashflow, based on the projected improvement once the BI solution is implemented. This outcome is a tangible metric to drive an analysis of ROI and one that is fairly easy to measure. On the other hand, if management believes that having a BI

solution will increase customer satisfaction and operational efficiency (workflow), then how do you measure these intangible metrics (measure value)? Any plan for measuring return needs to understand and quantify both tangible and intangible variables.

Completing this step will take some imagination and creativity, but management should not neglect this important area. How can an organization create intangible metrics? Using the employee retention, for example, one could argue that implementing a BI solution that enables the employee to have less paperwork and increase productivity could improve employee retention. An organization could measure both employee retention and employee satisfaction pre-technology change and then measure again after 30, 90, or 120 days following the technology change. An organization must give the new technology time for adoption of change to take effect.

Another method for measuring intangible metrics is to apply an adjustment factor. For example, if management believes that the new technology will increase operating efficiency by 10 minutes a day per worker in the department, it can test its assumption by making the following calculation: the number of people times the total available hours times the 10 minutes savings. Because the organization will not realize the full 10 minutes in other productive processes, it should use an adjustment factor between 0 and 1 to adjust the number. Management may decide to use, say, 0.6 as a starting point and then multiply this number times a fully loaded cost of an employee. Persons using this calculation must remember to use fully loaded cost when calculating ROI on any employee calculation (fully loaded includes salary plus benefits and other carrying costs). This number will result in a more accurate analysis of the operating efficiency savings.

Samples of intangible benefits from BI include improved customer service, customer retention, speed to market, improved employee communication, and customer satisfaction.

- > A challenge in measuring the benefit of BI is that often the information gathered from the BI solution data is then used to make process changes within the organization, and those process changes then impact revenue and/or profits. So, BI has a second or third tier effect on return (Whiting, 1999).
- > Time has impact on measuring return. It may take a year or more to see results from certain aspects of the BI solution. One of the attributes of a BI solution is to collect information in a viewable way that has not been readily available through static reporting. To measure improvements will require a starting point and then time to measure the variance against the starting point.
- > ROI is dependent on operational execution to see the benefits. For example, the BI data may show an organization that in the past 12 months Product A has a much better close rate when sold with Product B. The sales team must now take that information and start executing in the sales process. Otherwise, the information from the BI solution will not have resulted in a positive return to the organization.
- > BI Projects should never be based only on the numbers. It can improve an organizational culture. An improvement that improves team member attitudes which, in turn, could improve the performance of team members, which has an impact on customer satisfaction could drive a positive return on investment.
- > Even after implementing a BI solution, the process of improving the solution should be a continual process. By definition, a BI solution is about collecting information for decision making. Information is not static. Likewise, organizations are experiencing constant change. Plus, market conditions change. Therefore, BI solutions should adapt to changes in information, market conditions and changes within the organization.

#### Steps to an ROI:

**Step 1: Conduct the Business Needs Analysis.**

**Step 2: Complete the Organizational Analysis.**

**Step 3: Finalize the Information Architecture Analysis.**

**Step 4: Complete Draft 1 of the BI RoadMAP process plan.**

**Step 5: Create and quantify benefits.**

- > Benefits include both tangible and intangible benefits

**Step 6: Create and quantify costs (total cost of ownership).**

- > Costs include labor, software, and hardware
- > Remember that cost of hardware, software, and labor that already exist to support the existing solutions should not be counted here because the organization has those costs whether or not a BI solution is implemented. It is the incremental costs for implementing a BI solution.

**Step 7: Calculate the Return on Investment.**

- > A standard formula is to divide the annual benefits by the total annual costs to determine annual ROI percentage.
- > Run a simple NPV analysis.

$$\text{ROI} = \frac{[(\text{NPV Savings Yr 1} + \text{Yr 2} + \text{Yr 3})/3]}{\text{Initial Cost}} \times 100$$

**Step 8: Determine the payback period.**

**Step 9: Annually compare original ROI calculations with results.**

## Conclusion

In "Building Your Company's Vision," a Harvard Business Review article by James C. Collins and Jerry I. Porras, the authors assert that "[businesses] must translate the vision from words to pictures with a vivid description of what it will be like to achieve [their] goal." Organizations that want to create a Business Intelligence Plan must have a vivid description (vision) of how the plan addresses their business's strategic issues. Management of that organization must picture how the Business Intelligence information will be used to achieve their goals. They must understand that technology spending on a Business Intelligence solution is a risk worth taking and that challenges are part of the process. Conversely, they must believe that the reward of driving toward a Business Intelligence solution that gives them the ability to learn more about their organization and helps them identify the business issues of the organization will provide a path to success. As Jack Welch stated, "an organization's ability to learn, and translate that learning into action rapidly, is the ultimate competitive advantage."

The chart-topping book "Good to Great" by Jim Collins notes that great companies understand the power of technology accelerators. The greatest companies in American history didn't jump on technology bandwagons. Rather these companies were pioneers in executing technology that helped them be great at their core competencies and increased their momentum to success. The great companies made bold vision setting investments in technology.

Understanding the various components of the organization that will drive better Business Intelligence decision making takes time and effort. A well-defined Business Intelligence plan that compliments the business will bring an organization opportunity to return value for its investments in technology. Organizations should invest for the right reasons and should invest with effective planning. The BI RoadMAP process is an effective way to begin the Business Intelligence journey within your organization and more importantly to stay the course plus realize return on investment.

### Get started today.

ePartners BI Process RoadMAP:  
[www.epartnersolutions.com/BI](http://www.epartnersolutions.com/BI)

### About the author:

Dr. Dwayne M. Gunter has spent his career helping businesses adopt and implement technology. As an executive for one of the largest global technology consultancy practices, Dr. Gunter has utilized technology to help transform the operations of hundreds of companies in many industries. Dr. Gunter has earned a Doctorate in Business Administration with an emphasis in leadership and management. He resides in Nashville, Tennessee.

## References

- Collins, J., "Good to Great," Harper Business Publishers, (2001).
- Collins, J., and J.I. Porras, "Building Your Company's Vision," Harvard Business Review, (September, 1996).
- Hwang, M.I. and H. Xu, "A Survey of Data Warehousing Success Issues," Business Intelligence Journal, (November 9, 2005).
- Watson, H. J., J. G. Gerard, L. E. Gonzalez, M. E. Haywood, and D. Fenton, "Data Warehousing Failures: Case Studies and Findings," Journal of Data Warehousing, V4N2, (Spring 1999), 44-55.
- Whittemore, B., "The Business Intelligence ROI Challenge: Putting It All Together," Journal of Data Warehousing, V8N1, (2003), 4-10.
- Whiting, R., "Warehouse ROI," InformationWeek Online, (May 24, 1999). (<http://www.informationweek.com/735/dw.htm>).
- Wren, D., "The Evolution of Management," John Wiley & Sons Inc., (1987).

## The World's Leading Microsoft Business Solutions Consultancy.



After more than a decade of arming its customers with a competitive advantage, ePartners has established itself as one of the leading Microsoft consultancies worldwide. From aligning clients' business and IT strategies, to improving business processes, and deploying and supporting solutions that accelerate business results, no other technology partner offers more comprehensive information technology solutions and services than ePartners. Last year alone, more than 400 leading companies spanning 45 industries turned to ePartners for strategic business solutions and consulting services.

**Microsoft®**  
**GOLD CERTIFIED**

Partner

