



White Paper Series

Developing a Business Analytics Roadmap

A Guide to Assessing Your Organization and Building a Roadmap to Analytics Success

March 2013



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Executive Summary

Over the last few years IT industry analysts have pointed out that business intelligence is at or near the top of priority lists for many CIOs. Executives want it because they believe it will have a positive impact on business results.

The concept of business analytics as a component of business intelligence has recently come front and center. Technology and constantly improving people skills have resulted in many categories of business analytics that are changing the way businesses look at critical performance indicators in their company.

No matter how you personally view it, there needs to be business and technology strategies in place to help govern, assess, and build successful business analytics roadmaps. If you are not sure how to proceed, you are not alone. It is not an easy task to design and implement a successful analytics-driven enterprise. Creating a well thought-out roadmap to bridge the gap between information and analytics can be daunting. The challenge lies in accessing your data and turning it into a tool for competitive advantage. The purpose of this white paper is to assist you in accomplishing this goal by providing valuable insight on:

- The benefits of business analytics
- Categories and types of business analytics
- Performing an analytics readiness assessment of the current state of your organization--including technology, business, and data
- Building a transformational roadmap with recommendations and a plan to get you to your desired objectives

What Is Strategy?

The term "strategy" is frequently used in business and technology, yet do we really know what it means? For all of the work that people put into strategy statements, strategic roadmaps, corporate strategies, architecture strategies, innovation strategies, and so on, do you ever wonder if these efforts produce meaningful results?

Here's the perfect definition.

A strategy is a written plan to figure out the best way to get from here to there. Short and sweet.

No matter what situation you find yourself in, the notion of getting from where you are to where you want to be is pretty simple. You start learning that concept as a child and it involves the following:

- Where you are now?
- Where you want to end up?
- What stands between the first two questions?
- How do I approach the challenge?
- What course of action should I undertake (roadmap)?

Because we work and live in a time where data is growing constantly, these simple questions become amazingly complex very quickly.

Creating successful strategies requires focus, homework, effort, assessment, and analysis.





Objectives and Benefits of Business Analytics

Companies are looking for ways to gain advantages. One proven way to get an advantage is through optimizing metrics for various areas of the business including:

- Return on Investment
- Revenue
- Profitability
- Cash Flow
- Productivity
- Long-term Planning
- Other metrics specific to your organization

So how do analytics help? Analytics help you measure the performance of the various business areas outlined above. They give you the ability to establish a benchmark to determine what is good and what is bad. Proper analytics then help you monitor these metrics on an ongoing basis and help you troubleshoot bad performance to identify a root cause.





The value from key insights comes from the improvements of business processes brought to light by the analysis. If properly executed, analytics have the ability to deliver better business decisions and outcomes and deliver tremendous benefits, including:

- Improved analysis to predict and profile ROI and its impacts for proposed business initiatives
- Improved understanding of customers and their habits, especially buying and searching characteristics
- Creation of a rapid, fact-based culture to make decisions and reduce guesswork, especially when making strategic product and revenue decisions
- Identification and optimization of the most profitable activities and elimination of money-losing business activities
- Identification and optimization of the true drivers of financial performance and cost efficiencies
- Improved response to customer needs and trends

High-Level Categories of Analytics

Categorizing business analytics is not a precise science by any means. It is a topic of debate on social media sites and blogs where analytics gurus voice their professional opinions. For the purposes of this discussion, three major categories of analytics will be outlined. These types of analytics -- **operational**, **tactical** and **strategic** -- all have their roles in helping improve corporate decision making.

Operational Analytics. This analytics type tends to assist in “business as usual” situations where basic corporate metrics are reported and visualized. It is typically related to mature transactional systems. The organization is typically dealing with reporting of the “here and now” metrics for the business. It has sub-categories (all sub-categories are discussed in more detail in Appendix A) that include topics like *monitoring analytics* and *event-driven analytics*.

In some organizations, operational analytics results give you recommendations so that you can decide what to do with the information. The next level of analytics can even act on those recommendations automatically. Some industry experts view that as part of operational analytics; others place it more in the tactical analytics arena.

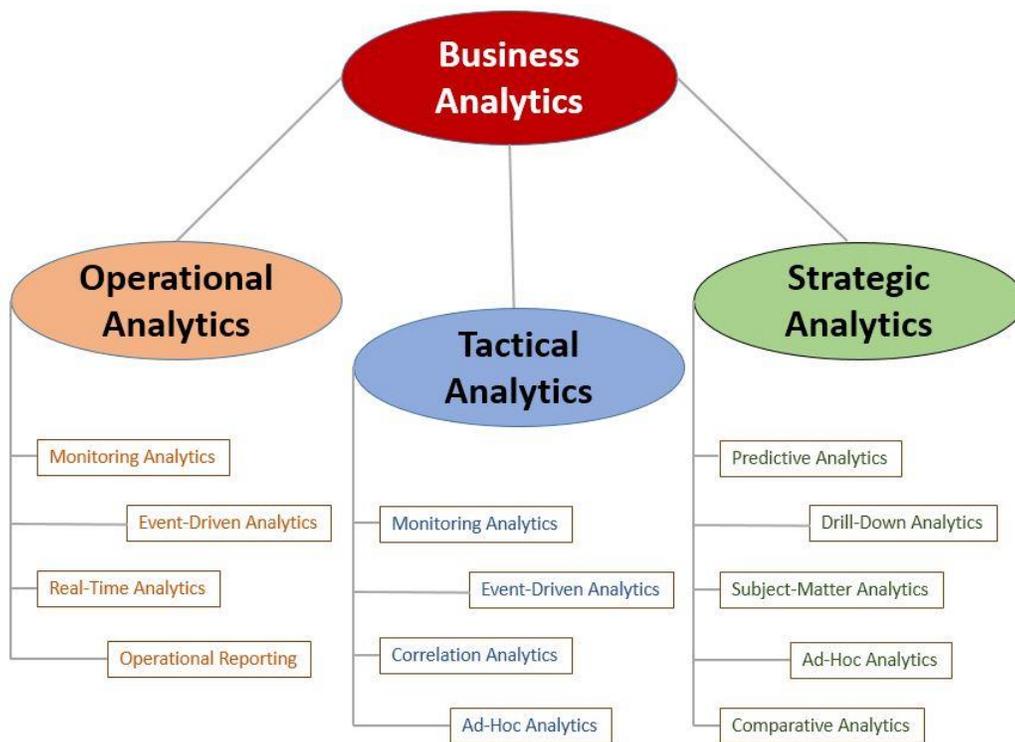
Tactical Analytics. This analytics view is usually longer term and focuses more on analytics to assist management in tackling problems, often including fairly simple predictive models based on past historical performance. One way to think of it is the ability to find out key metric “outliers” that do not have a big impact on your business strategy; they are more localized issues. The results of these outliers can be addressed by either human or machine-based business rules.



For example, your analytics system discovers an anomaly in sales, maybe in a region or with a specific product. The organization now investigates a one-time only situation -- oftentimes a situation that is not repeatable. You now identify the cause and find the solution.

Strategic Analytics. This type business analytics can play a vital role in helping a company make dramatic decisions affecting the strategic direction of the organization. More complex systems and disciplines are needed in order for strategic analytics to become a key part of the company's decision making.

Strategic analytics also has sub-categories (all sub-categories are discussed in more detail in Appendix A) that include things like *predictive analytics*, *drill-down analytics*, *subject-matter analytics*, *ad-hoc analytics* and *comparative analytics*.



Within these categories, there are additional classifications that can be made and are fairly widespread in their use. Some of these sub-categories may appear within more than one of the three major analytics categories. You will find a description of these analytic types in Appendix A.

Understanding the types of analytics can be helpful in improving the overall value of your business analytics platform. Review them as part of your overall needs assessment and in building your analytics roadmap.



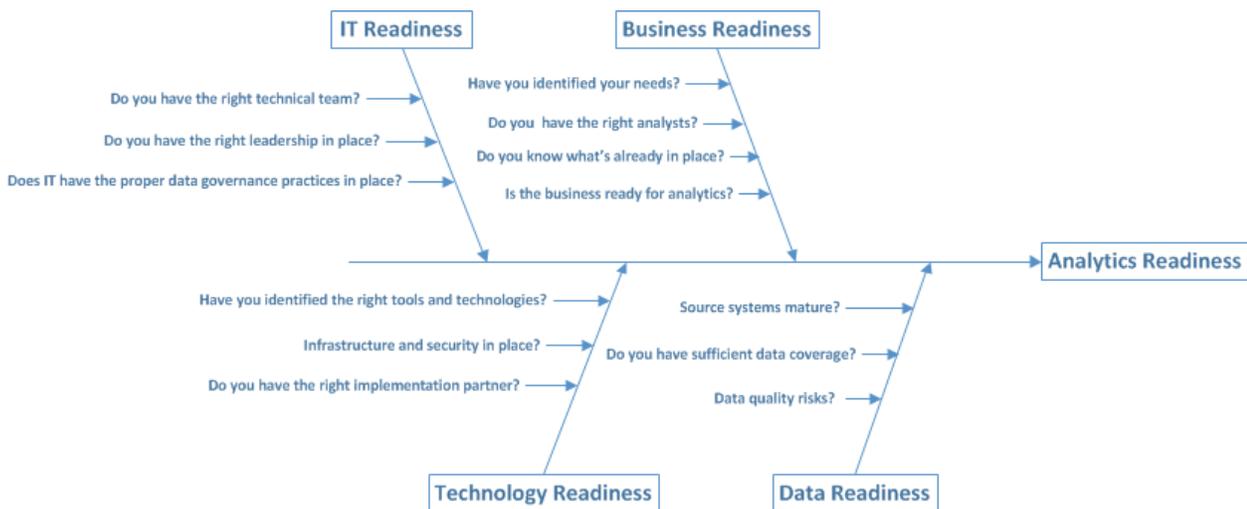


Analytics Readiness Assessment

Analytics projects typically require a significant investment and should not be undertaken lightly. Without proper planning, the risk of failure is high.

The first part of your plan is assessing your organization's readiness for analytics. During this exercise you are typically asking questions and searching for information to ascertain the truth about the state of your organization in various areas related to analytics.

An Assessment of Analytics Readiness Capabilities



Using the discipline shown in the diagram above, start with a carefully developed assessment of the analytics capabilities and sophistication within your company. The various components of this assessment are outlined next.

IT Readiness

Do you have the right technical team?

Analytics projects often require different skill sets, especially with some of the new tools and technologies that are available. Drill down and make sure you have the right people in your IT team to bring analytics successfully to your organization.

Do you have the right leadership in place?

Building analytics systems can sometimes be as much art as science. When you start combining business, IT, data, and corporate strategy issues all on the same project, you need clear and experienced leadership.

Does IT have the proper data governance practices in place?

One of the main causes for analytics failure is the lack of data clarity in the source systems. Specifically, many source systems do not have properly designed data models that can be easily interpreted by downstream systems. Make sure your IT organization understands the state of its source systems.





Business Readiness

Have you identified your needs?

Business managers who are the real drivers of these projects need to clearly document why they need a properly-designed analytics system and where their current pain exists that is preventing them from proper business analysis.

Do you have the right analysts?

Often overlooked until the end, a good team of business analysts is critical early in the project.

Do you know what's already in place?

Carefully document the business processes and rules currently in place and which of those are supported by any type of analytics system, even if it's just exported reports to Excel.

Is the business ready for analytics?

Successful analytics implementation often requires accompanying business process changes to take advantage of new insight. Management must get used to making data-driven decisions as opposed to those driven by "gut feeling."

Technology Readiness

Have you identified the right tools and technology?

Depending on the objectives, new tools and technologies exist, especially in the visualization area. Write up an assessment of your technology inventory as part of the assessment process, and indicate the need for further technology evaluations as part of the final roadmap. The assessment should also outline the compatibility of these tools with what is currently used in the organization. It is often best to align any new tools with existing platforms in order to reduce any barrier to implementation.

Are infrastructure and security in place?

Analytics systems require significant infrastructure capabilities including sophisticated security, increased network traffic, and additional data storage and data crunching capabilities. Underestimating the need in this area could cause roadblocks and derail your roadmap implementation.

Do we have the right implementation partner identified?

In almost all cases, it is a good idea to bring in outside partners and consultants to help with specific pieces, or perhaps the entire project. If partners are needed, do you have some go-to resources in mind?

Data Readiness

Are the source systems mature?

A common cause of analytics failure is relying on source systems that are in a constant state of flux. Source system frequent changes will cause downstream rework and potential failures. Make sure you take into account the state of your source systems in your analytics roadmap plan.

Do you have sufficient data coverage?

A major roadblock to successfully implementing analytics is the lack of data elements required for providing comprehensive metrics. Don't fool yourself; this is a problem in most organizations. Make sure you understand the gap between what is available from your source systems, and what is required by business and design your metrics to take this into account.





What are the data quality risks?

What data quality issues are there? If there's a problem in this area, it will always show up at some point. If possible, try to identify issues early in the assessment. It will save time-wasting and morale-busting efforts down the line.

The assessment effort should provide some clear deliverables. Below are several important ones that should be considered.

| Deliverable | Description |
|------------------------|--|
| Project Charter | Describe the overall project, its objectives, deliverables, timeline, team members, organization structure, sponsoring executives, and so on. |
| Baseline Documentation | Collection of materials accumulated before and during the assessment project, including project management notes, presentations, proposals and other baselines. |
| Meetings Inventory | Document all meetings, interviews, and working sessions (with agendas, participants and roles, venue and equipment, baseline materials used, and meeting outcomes). |
| Assessment Report | Final presentation that provides the results of the assessment activities. The report includes conclusions and recommended next steps. |
| Development Proposal | Proposal for the recommended solution with development plans and timelines. If the project is big enough, it might be broken down into multiple phases, and a development plan will be developed for each phase. |

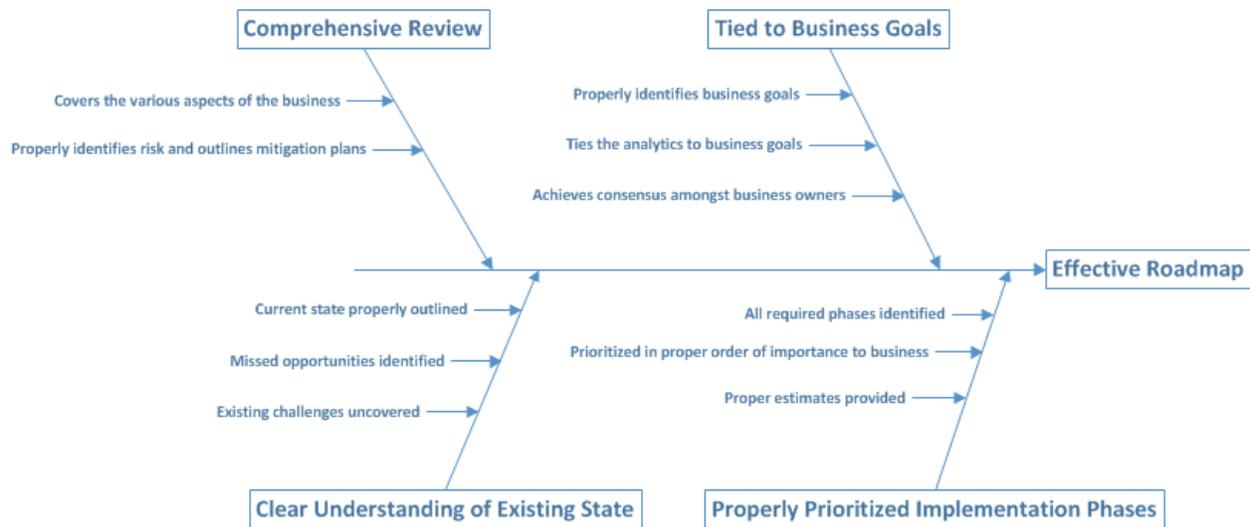


Build a Transformational Analytics Roadmap

Any company that wants to reach the important and significant benefits of an analytics strategy needs to have a detailed plan defined that is best suited for their goals and situation.

The roadmap will have multiple milestones and will require diligent work and digging to uncover the objectives, obstacles, and steps to put the end result of the analysis on the roadmap document.

What Makes an Effective Roadmap?



Comprehensive Review

Covers the various aspects of the business

For a roadmap to be successful it must address the analytics needs of the various aspects of the business. Make sure all the areas have representation in the roadmap to get a comprehensive picture early on.

Properly identifies risk and outlines mitigation plans

There are risks involved in most business ventures and implementing analytics is not an exception to the rule. Make sure that your analytics roadmap takes into account the major risks and roadblocks to successful implementation, and outlines steps that could help you avoid those pitfalls.

Tied to Business Goals

Properly identifies business goals

If not done correctly, this can be a fatal project flaw. Believe it or not, some projects proceed without the priorities and goals clearly defined. Build your roadmap to include these important principles, and make sure everyone is in agreement.





Ties the analytics to business goals

The IT department can sometimes have an overpowering impact on these projects. The business benefits, surprisingly, can begin to take a back seat. We hear the horror stories all the time. Make sure the business teams are clear and concise in their needs and all involved understand the goals and deliverables.

Achieves consensus amongst business owners

If scope is not clearly understood and documented, it will expand. This scope creep is a common problem, and it impacts not only the originally desired results, but it can be a morale and budget killer.

Clear Understanding of Existing State

Current state properly outlined

A key part of developing a clear roadmap for success is to understand exactly where you are now. This exercise should include an outline of the existing production systems as well as high-level data flows.

Missed opportunities identified

Missed opportunities often provide support for analytics in terms of estimating return on investment. Identifying those potentials is helpful in making the case for building the roadmap.

Existing challenges uncovered

Your roadmap should document challenges your business owners are facing and roadblocks that prevent them from making proper decisions. These challenges provide support for the investment required for building the roadmap.

Properly Prioritized Implementation Phases

All required phases identified

A successful roadmap should divide the implementation into logical phases in order to reduce implementation risk. Phases should be around three months in duration. Taking on all the metrics and goals at the same time or in large chunks is very risky primarily because business users lose interest if they are not engaged on an ongoing basis.

Prioritized in proper order of importance to business

Prioritize your roadmap phases in order of importance to your business so that you reap the most benefits from your analytics early in your roadmap and provide justification for additional phases. Strong early success provides the critical mass and positive impression about analytics which leads to stronger business adoption.

Proper estimates provided

Although it is not possible to provide exact estimates at the stage of developing the roadmap, you should attempt to come up with ballpark numbers. There are many techniques that can be used to aid in this exercise. Make sure you are consistent and comprehensive in your estimates in order to give management a good picture of the scope of the roadmap.





Summary

When designing and implementing your analytics system, it is often most effective to start small. Start with some projects that are less complex but of relatively high value. Focus on early wins for the users and the analysts. One good way to do this is with prototypes, often called “proof of concept,” to show those early successes.

Company directions and strategy change. Technology improves and changes. The strategy needs to be communicated, discussed, negotiated, and then implemented, in an ongoing manner. The roadmap is a living document that needs to be kept up to date and includes a library of documents that go with it to support the project over the long term and the projects that follow. What you will discover is a path that shows ongoing maturity, inter-relationships to multiple disciplines within the company, and many critical questions and answers.

Does it sound complex? Yes, business analytics can be complex, especially if you don't have a roadmap and a strategy. But, if executed well, analytics systems can have enormous positive impact on your organization.



Appendix A

Understanding these types of analytics is helpful in improving the overall value of your business analytics platform. Review them as part of your overall needs assessment and in building your analytics roadmap.

Monitoring Analytics. This type of analytics is all about answering questions, for example: What happened? Why did it happen? What do I know? It is a widely-broadcast view of key metrics that are happening right at the moment. It's a fairly straight forward "push" data platform where data is visualized to the right people.

Predictive Analytics. This type of analytics uses statistical techniques to predict outcomes. It can help answer questions like: What is likely to happen in the future? What is likely correct about customer behaviors? What do the forecasts show based on historical relevance?

Drill-down Analytics. This type of analytics focuses on business users who want to move through a hierarchy of data structures as a method of exploring data and finding key metrics, including ROI and other measures of profitability. It often uses visualizations with OLAP or Pivot Table style technologies to view the business from the top level all the way down. Many dashboard tools now provide a near-infinite amount of drill-down capability if the analytics architecture has been done correctly.

Correlation Analytics. This type of analytics tends to be heavy-duty number crunching focusing on more machine-driven analyses using platforms like data mining.

Comparative Analytics. This type of analytics takes high volumes of past data and compares it over time to see key similarities or differences in data patterns. What has changed recently? Is there outside industry data available where I can compare my metrics against industry standards and benchmarks?

Real-Time Analytics. What is happening right at this moment? What are the analytics I could use right now to make a difference in the business? I see the issue/problem/concern but what can I do right now to affect it?

Subject Matter Analytics. This type of analytics gets very specific within a business discipline and allows you to immerse deeply into specific types of information, e.g. sales, cash flow, credit, fraud, marketing, and pricing.



Ad-hoc Analytics. Ad-hoc analysis is designed to answer a single, specific business question. The product of ad-hoc analysis is typically a statistical model, analytics report, or other type of data summary. Ad-hoc analytics can be used to drill deeper to get details about accounts, transactions, or records. The process often involves the use of dashboards, OLAP models, and other tools by power business users.

Operational Reporting. Operational reporting supports the detailed day-to-day activities of the corporation at the transaction level. It is typically used by the front-line operations personnel. Very short-term, detailed decisions are made from operational reports.



About StatSlice

StatSlice is a strategic data services consulting firm headquartered in Dallas, Texas, specializing in data warehousing, business intelligence, and business analytics. Strategic data services include the skills, processes, technologies, applications, and practices used to support business intelligence and corporate decision-making. StatSlice has a highly dedicated consulting organization with a reputation for excellent customer service and measurable success in implementation. They promote an environment of resourcefulness, innovation, and creativity without sacrificing measurable results. They continually stay on the cutting edge of the latest business intelligence and analytics challenges and principles, and as a result, they are a “go-to” team for your most challenging projects.

For More Information

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