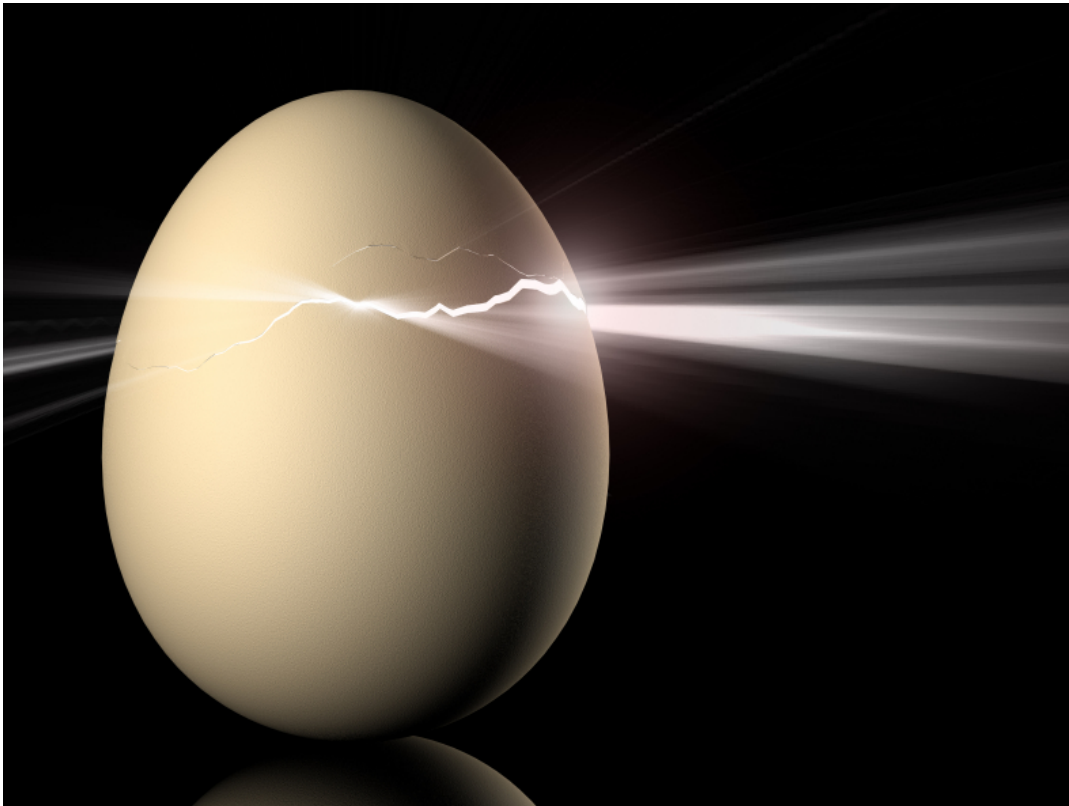




## **ACHIEVING OPTIMAL VALUE FROM BUSINESS INTELLIGENCE**

AN EXECUTIVE SUMMARY



# Abstract

***The key to thriving in a competitive marketplace is staying ahead of the competition. Making sound business decisions based on accurate and current information takes more than intuition.***

The great irony of Business Intelligence (BI) today is that of all of the money spent on BI solutions, only a small percentage of an organization's user community are actually able to realize value from the BI investment. Unfortunately, it is the operational personnel that really need detailed tactical insight and access to key business information who are the furthest away from it. Business users who are the most able to act on the information quickly to nip problems in the bud or exploit potential opportunities lack easy access to relevant information in order to make timely and informed decisions.

A focus on Geospatial Information Systems) GIS is a transforming technology allowing businesses to view and analyze data from a geographic perspective. GIS integrates business strategy and organizes necessary information for your business needs as an executive. It can also utilize different systems to save valuable resources, visualize your organization's assets, and streamline workflow processes.

It is becoming a part of mainstream business and management operations around the world in organizations as diverse as cities, state government, utilities, telecommunications, railroads, civil engineering, petroleum exploration, retailing, etc. in private and public sectors. This array of institutional types is integrating GIS into their daily operations, and the applications associated with these systems are equally broad from infrastructure management, to vehicle routing, to site selection, to research and analysis.

## **Overview**

The current market slowdown has put increased pressure on margins for most organizations. Today's organizations are feeling the rising input costs, higher interest rates and tight money supply. Large companies may experience flat demand or even a decline from global oversupply in the next few years. The role of (BI) to provide agile, adaptable and efficient business decision-making has become very important to meet these business challenges. Businesses will struggle to have the leading edge in the market if decision-makers cannot get the correct timely information to act upon. Most business users and decision-makers rely heavily on the IT department in order to get information and make day-to-day business decisions. This not only causes inordinate delays in decision-making, but also places dependency on IT. This increases the overall investment cost of BI for the organization. All these factors translate to higher operating costs, reduced productivity, customer dissatisfaction and, most importantly, higher levels of dissatisfaction among employees in organizations.

To gain an advantage over competition, organizations must innovate ways in which business users can quickly and easily get required information. This means a BI environment in which business users can get rich, accurate and real information at their fingertips as easily as we get information from a Google search. For this to happen, business and IT need to work together to create a self-service BI environment that enables business users to access information with minimum support from IT for their day-to-day operations, so as to increase the overall ROI on BI for the enterprise. The need for such self-service BI has become less of an aspiration and more of a requirement in today's competitive business scenario.

## **Prioritize Self-Service BI**

Most large organizations have multiple inconsistent BI environments, and a single data warehouse does not adequately cover all the lines of business. This is because the data warehouses in most organizations have been developed disparately, with the silo approach in mind. Business users do not have access to consolidated, unified data from which they can make fact-based, objective, relevant and timely decisions. In many companies, one single data warehouse cannot meet the BI needs of all groups. When a data warehouse does not adequately cover all lines of business, the users have to get data from different sources and consolidate it in one place, leading to several spread marts within the same organization.

Business users spend much time explaining what they need to their IT teams, and after they get the report or data, they spend time filtering the required information from the data they receive. Most operational business managers can't easily access information that's relevant to their specific needs because BI tools have traditionally been deployed in support of executive or financial analyst requirements.

In addition, due to the complexity of these traditional BI tools and limited analyst resources, operational business users are left waiting for reporting requests and unable to drill down and probe information when needed. The primary reason for this is that the design and technology choice in their existing architecture has limitations in terms of data structure in the data warehouse and limitations on report formatting capa-

bility at the front end. The non-availability of standard formatted reports and difficulty creating ad hoc reports increases dependence on IT.

With all this difficulty and delay to access information with their existing BI environment, business users have reduced the usage of BI in many organizations. In such an environment, business users make many critical business decisions based on intuition and with reliance on fewer facts, making their business decisions more risk prone. The existing BI architecture, which has been developed over a period of time with a tactical approach, should be reassessed to come up with a long-term BI strategy. Organizations should become aware of and work toward achieving self-service BI by placing it on their priority list before the alarm bell starts ringing.

## **Business Processes**

A lot of different procedures for identification and improving business processes have been developed and tried by businesses with varying degrees of success. Some of the most notable earlier procedures include Porter's Value Chain and Total Quality Management (TQM), which were used during the 1980s. Business Process Reengineering was popular during the 1990 decade. The 1990s also saw the emergence of the Enterprise Resources Planning (ERP) package software systems most of these procedures are actively evolving. For example, TQM is being replaced with Six Sigma methodology; Business Process Reengineering is evolving into Business Process Redesign [4]. Other processes such as Continuous Quality Improvements, Management by Objective, Management by Walking Around, Customer Focus Management have also emerged [8].

The use of information and communications technology and Business Process management is becoming a core competency that every business must have in order to function in today's global and highly competitive business environment. All of the various business process improvement procedures are merging into the single discipline of Business Process Management. In [2] is presented a useful list of four major business processes including: business process improvements, business process reengineering, technology transfer, and process standardization. Harmon [4] completed a similar list, which include the following three processes: improvement process, process redesign, process reengineering.

Developing more efficient business processes is often the best way to reduce costs and improve efficiency. Developing workflow to provide information and data to the users when they need it can avoid time spent looking for the information or waiting for the information to arrive. Although GIS is often viewed as a technology project and an arena for the technically sophisticated computer professional, the development of a successful enterprise GIS is dependent more on proper management participation and supervision than on technical solutions.

## **Create Self-Service BI**

The approach for self-serve reporting is based on designing the intuitive information delivery layer, which will provide data analysis capabilities directly to users. The approach should have an end-state vision where business users can view the key performance indicators at strategic or tactical levels, like balanced scorecards, and can drill down to the operational level to understand process performance as well. The design should allow business users to correct or optimize the process and achieve incremental excellence. Business users should be able to use the English language on a Google-like search and get the corresponding information in a single window - for both structured and unstructured information. This search-based approach combined with centralized enterprise-wide metadata helps business users get the information in an accelerated manner. On the back end, the data warehouse schema and online analytical processing (OLAP) models should be redesigned to hide the database complexity. The BI reporting tool should be standardized to a single vendor. All this provides easy reporting capabilities to the end users for information analysis. The successful definition and implementation of the self-service BI program is achieved in four basic steps.

The first step is an as-is assessment of the existing landscape with respect to people, process, technology and governance. This study takes a deep dive in existing information delivery capabilities and their associated architectures. The data for the as-is study is gathered from existing system documentation and interviews and discussions with subject matter experts, business users of existing BI reports and the existing BI IT support team.

The second step is identifying the to-be needs. The various business units across the organization that access information from the existing BI environment and the potential users of BI are identified, forming groups of about 10 to 12 key users for each business unit. A focus group is made diverse with users from cross-functional areas to get an unbiased and overall organizational perspective. Focus group discussions are conducted with these users, revealing pain areas and possible suggestions on how to access information for their day-to-day work without IT support. All the needs that come out of these focus group discussions are documented, and they become the to-be needs to enable self-service BI.

The third step is the definition of the to-be BI state. This is based on the to-be needs gathered along with business and IT consensus regarding the business capabilities and technology solutions necessary to support defined corporate strategies. Based on the as-is assessment and to-be needs, analyze how various BI needs within the organization can be consolidated to create a single centralized BI reporting environment. This step translates into architectural and structural changes in the data warehouse design. In case there are several BI tools across the organization, a single vendor BI tool standardization approach is recommended. If the existing BI tools within an organization do not meet the current business requirements, a new suitable BI tool is recommended with a business case.

It is critical to understand that a single BI reporting tool is not an enabler for self-service BI. It's only for standardization and rationalization, eventually providing a centralized competency framework. There

could be recommendations on the report delivery process, like establishing a report certification model. This approach brings consistency and discipline to the BI environment across the organization.

The fourth and last step is creating an implementation roadmap for transition to the future self-service BI architecture. This includes a phased rollout plan incorporating both time and cost estimates in the form of multiple BI projects. This approach to self-service BI leads to a search-based reporting environment that is centralized, metadata-driven, easy to navigate and efficient.

### **The Benefit of Embracing Self-Service BI**

The most visible change that organizations have seen by implementing self-service BI is more agility in their business. Business can react to market changes or even take advantage of market situations more quickly with self-service BI because they have faster access to BI. The increased speed is a result of lesser dependency on IT and quick and effective access to decision-making data. Data that typically takes a few days to generate can now be accessed in a few clicks. There is better overall control of the data, and many organizations have been able to clean hundreds of repetitive, unused reports from their BI environment. In the self-service environment, data is organized and structured in a better way on the back end and displayed better aesthetically on the front end, so business users can easily access information. New features in the BI tools transform mundane reports and give them new life.

The overall usage of BI increases in most organizations with a self-service BI environment. With most organizations, 80 percent of information that is requested by businesses for day-to-day work can be standardized, and the remaining 20 percent can be obtained by adding some flavors to the standardized information.\* Standardization of information can reduce IT effort in catering to such requests by about 85 percent on average. For ad hoc requests, organizations realize that having a single version of the truth in a structured manner, with consistent standardized metadata across the enterprise, has solved several complexities. Selection of a more sophisticated reporting tool on top of this organized data structure has made life simpler for business users. There is fantastic response from organizations where self-service BI is implemented as automation in decision-making through rule-based engines. Such organizations could see 45 percent savings in cycle time and 55 percent cost reduction through automated decision-making processes. Embedded data quality in the reporting and rules services as part of self-service BI develops confidence in the decision-maker.

All this has made data ownership easier, and setting up a process under such an environment is much simpler and effective. Most companies experience overall cost savings in IT budgets by about 60 percent over the previous year's spending. Eliminating many similar reports to create standard reports could reduce hardware costs by about 45 percent. Long-running queries from different users are also reduced, and this could give about a 30 percent boost to overall performance for complex reports. Having a single BI reporting tool across the organization as part of a self-service solution creates standardization for information access and simplifies the learning curve for the business users because they only have to learn

one BI reporting tool. This creates considerable savings on training business users across the organization. All these are substantial benefits that self-service BI can give and could prepare organizations for bigger challenges. Organizations can thus raise their aspirations toward achieving their strategic vision.

## **Conclusion**

The need for coordinated and collaborative business processes is changing the face of how these processes are modeled, executed and managed. GIS is important in BI because most business problems include significant spatial components and GIS enables decision makers to leverage their spatial data resources more effectively. Customer Relationship Management, Enterprise Resources Planning, Supply Chain Management, and more others are acronyms for some solutions designed to extract and analyze information from data warehouses and allow decision-makers to perform at a higher level of efficiency. But data on it's own has no value. Without simple visual ways to integrate, display and analyze, it is possible to end up with massive amounts of data but no information. From a particularly point of view, the geo-spatial data and maps managed within an enterprise GIS represent a kind of common “language” that is understood within and across organizational boundaries. This “language” has the power to weave together and integrate traditionally disparate business functions. Each of these diverse functions is ultimately dependent upon the location and spatial relationships between real property, assets, and people.



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