

# Meet the Analysis Needs of Business Users with Business Intelligence



## Overview

Customer buying behavior, demand patterns and marketplace trends are constantly shifting and evolving. To keep up, companies require a wide range of analysis capabilities. However, different analysis tools, information silos, multiple platforms and excessive reliance on spreadsheets make it difficult to analyze information with accuracy. Often, there is no on-demand access to data, information and context in real-time. Also, accessing corporate information is often hampered by limited connectivity and cultural barriers.

As a result, companies have to deal with complex, disconnected and inefficient analysis processes that affect the entire organization. Executives cannot explore a timely and reliable view of business performance. Business managers invest excessive time and resources in the processes of searching and reviewing multiple views of data instead of making decisions and taking actions based on accurate information. Business analysts end up using multiple tools for in-depth analysis and struggle to share results with broader business communities. Advanced analysts are dealing with a growing number of statistical analysis requests from a wider audience, while being largely disconnected from mainstream BI solutions.

Companies need analysis solutions that meet the needs of all business users—from the people on the front lines to departmental leads to advanced analysts. These users want to be able to analyze data for themselves to drive better, smarter business decisions without waiting for IT to deliver the requested information.

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*“There’s a growing sense organizations might find it easier to attain a return on their BI investments by getting the software into the hands of more ‘average’ users.”<sup>1</sup>*

—Ann All, IT *Business Edge*<sup>1</sup>

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Executives need to be able to explore a timely and reliable view of their business and take action to drive better business outcomes and decision-making. Business managers require a single, reliable view of information that can help them focus on issues that need attention and action. Business analysts have to conduct in-depth analysis effectively and share results easily with broader business communities. Advanced analysts must apply their knowledge, expertise and investment in corporate data to advance the business, instead of managing a backlog of requests for information.

Understanding the unique analysis needs of your various audiences and related stakeholders can unleash the full potential of business intelligence solutions. What companies need is analysis capabilities that can access virtually any corporate data source, regardless of platform, and provide detailed, understandable views of that data to all users, regardless of role or location. These solutions should feature innovative tools that can help these diverse business user groups analyze information easily from their desktops or from mobile devices.

<sup>1</sup> Ann All, “Business Intelligence Alternatives ‘Good Enough’ for Many Users,” IT Business Edge, June 16, 2010.  
<http://www.itbusinessedge.com/cm/blogs/all/business-intelligence-alternatives-good-enough-for-many-users/?cs=41770>

### IBM Cognos 10: Intelligence Unleashed Smarter Decisions. Better Results.

Cognos® 10 delivers a revolutionary new user experience and expands traditional business intelligence (BI) with planning, scenario modeling, real-time monitoring and predictive analytics. With the ability to interact, search and assemble all perspectives of your business, Cognos 10 provides a limitless BI workspace to support how people think and work.

Cognos 10 enables organizations to outperform by providing:

- **Analytics** that everyone can use in a BI workspace that sharpens individual skills to answer key business questions
- **Collective intelligence** with built-in collaboration and social networking to connect people and insights to gain alignment
- **Actionable insight** everywhere in mobile, real-time and business processes to instantly respond at the point of impact

Built on a proven technology platform, Cognos 10 is designed to upgrade seamlessly and to cost-effectively scale for the broadest of deployments. Cognos 10 provides you and your organization the freedom to see more, do more—and make the smart decisions that drive better business results.

### The power of analysis for everyone

Business intelligence (BI) takes information that usually lies latent in extensive pools of corporate and external data and unleashes its potential to help companies answer the following three key questions:

- How are we doing?
- Why are we performing as we are?
- What should we be doing?

The following table shows these questions mapped to the BI capabilities that provide the analysis necessary to answer them. A scorecard or dashboard that indicates a real-time shortfall in performance—in this case, insufficient shipments—sets the stage for a deeper analysis that explains what's driving the shortfall, namely a shortage-driven production bottleneck. With this analytical capability, any organization can model various scenarios and predict future demand, which in turn helps them make the best possible decisions to deal with the material shortage and avoid potential shortages.

| Question                                | Requisite BI capabilities                            | Typical scenario  |
|---|--|---|
| <b>How are we doing?</b>                | Scorecards<br>Dashboards                             | On-time shipments are below plan  |
| <b>Why are we performing as we are?</b> | Reporting<br>Analytics<br>Statistical analysis       | Production bottleneck because of material shortage  |
| <b>What should we be doing?</b>         | Scenario modeling<br>Predictive modeling<br>Planning | <ul style="list-style-type: none"> <li>• Methods used to address material shortage</li> <li>• Projection of customer demand to determine future material shortages</li> </ul> |

Armed with this information, individuals and teams at all appropriate levels of the organization would be able to address the issue at its source and alleviate the bottleneck. It's an excellent example of how better analysis goes beyond improving organizational planning and creates better business outcomes.

At the same time, it is important to note that one size of analysis does not fit everyone. As Table 2 demonstrates, user needs vary significantly. By understanding the different types of analysis and relating them to specific roles in their organizations, companies can benefit.

| Type of analysis                       | User type   | Needs  | Primary use   |
|--|---|--|---|
| <b>Analytical reporting</b>            | Everyone in the organization  | Simple analysis  | Drill down to more details or to associated reports   |
| <b>Trending</b>                        | Business managers, business and financial analysts                    | Understanding of factors driving performance                     | Slice and dice, examine the information from differing points of view (such as sales by geography, then sales by product line, then sales by product line within geography).  |
| <b>Enterprise dimension management</b> | Business managers, business and financial analysts, advanced analysts | Modifying of business structures and hierarchies.                | Easily maintain, govern, share and centralize data hierarchies for use and reuse in analysis  |
| <b>Scenario modeling</b>               | Business and financial analysts                                       | Alternative scenarios  | Understand the impact of various possible solutions to a problem (for example, the impact on revenue of structuring the sales force by product line rather than by geography or the cost of alternate sourcing approaches). |
| <b>Predictive modeling</b>             | Business, financial and advanced analysts                             | Analysis of past performance for future planning                 | Determine what might be (for example, the most likely follow up purchases after initial product purchase; most likely customers to churn)   |
| <b>Statistical analysis</b>            | Advanced analysts   | Deeper insight into the shape and distribution of corporate data | Easily maintain, govern, share and centralize data hierarchies for use and reuse in analysis  |

A closer look at the key business roles in a typical organization and the analysis tools that can most benefit them sheds additional light on the tactical and strategic advantages inherent in extending analysis to the widest possible internal audience.

### **Business users**

Traditionally, organizations have not deployed analysis solutions—either at all or in any significant numbers—to business users, choosing instead to limit their availability to more specialized analysis and senior leadership roles. Those users who required additional insight were typically forced to route requests for analysis through specialist resources.

Business users need tools that have previously been reserved for power users. Putting greater analytical capability into the hands of business users empowers them to deliver more effectively in the context of their respective roles and frees up specialists for more value-added contributions. Software and tools that are easy to use and have a familiar interface are critical, because these individuals typically shy away from any new tool if they fail to immediately understand how it works.

### **Information to reporting to smarter operations**

When timing and quality control are paramount, organizations need to be able to analyze and measure results so they can manage operations better and drive down costs. With this in mind, Dr. Pepper Snapple Group chose IBM Cognos software to power its performance. With this software, plant managers have greater visibility of their operations so they can identify production bottlenecks, resolve operational issues and optimize business performance. Furthermore, they can obtain this information when they need it without having to wait for IT to create or run reports for them.

Analytical reporting provides the basic level of additional insight to a particular performance metric to answer a straightforward question that doesn't necessarily require invasive analysis. For example, a business user reviewing last month's sales figures notices they seem abnormally low. With guided analysis and straightforward drill-through, the user can understand what is driving these results and can more effectively explain this to leaders and other stakeholders.

**Executives**

Greater capability to examine a wider range of data drivers to better explain or understand organizational performance can significantly enhance the average business executive's ability to manage resources to a given plan. Although they do not need solutions as advanced as business managers, business analysts or advanced analysts, an enhanced ability to analyze independently why certain results are being realized allows an executive to manage more precisely over time. With this information, they can reduce the risk that sub-par performance will be missed until it is too late to resolve.

Analytical reporting fits that bill for executives. It enables them to explore a timely and reliable view of their business and take action to drive better business outcomes and decision-making.

**Business managers**

Business managers often find themselves needing to extend their analytical capability over product lines, customers, geographies, market sectors and even time zones. They must slice and dice greater varieties of data from more sources, and when they're done, they need to distribute the outcomes to a wider audience. Because they are not advanced analysts or IT professionals, they need to accomplish this with interfaces and applications they're already familiar with or they can easily learn on their own or with little training.

Analytical reporting provides a good foundation for their analysis. However, to dig deeper, they need trend analysis, which helps them determine how they are performing relative to baseline, where variances may be occurring and why they may be occurring. It examines the underlying factors that drive organizational performance and requires improved access to a wider range of data resources.

With trend analysis, the manager overseeing the business user who identified the low sales figures, for example, could take the initial report outlining the underlying performance weakness and use it as the basis for a more complex analysis. By comparing the results with other product lines from elsewhere in the organization and industry figures from external data source, the manager can place the performance in context and better understand what the figures mean. Not only that, but the manager can also understand what that meaning implies for a potential organizational response. The manager could even engage analysts to dig deeper. Either way, additional analysis can be managed without significant additional overhead and questions can be answered more quickly and precisely.

Because business managers work with so much data, they need to be sure they are working with a "single version of the truth" when analyzing information. Enterprise dimension management can help them maintain, govern and share data hierarchies for use and reuse seamlessly in their analysis tasks. For example, if they are looking at a report or doing some trending, slicing or dicing and notice that the structure of the sales territory or the product line needs to be updated, they can start the process by updating the dimension themselves and then flowing that change through a workflow to ensure they are analyzing accurate information.

### **A building materials distributor gains insight into cost centers and make more informed decisions**

Known for its customer service and high-quality products, the sales force for U.S. Lumber was rapidly growing. The company needed a sophisticated BI solution to help calculate and analyze a year's activities, including all their financial forecasting, but an upgrade of their software would have cost them \$100,000, an amount the company could not afford. Instead, the company chose Cognos Business Intelligence. Now U.S. Lumber can now look at all types of data and analyze it on the fly, which helps make daily decisions for management easier and more accurate. Additionally, because U.S. Lumber is able to view its key performance indicators—cost per pound and average margin per day per branch—on an hourly basis, its management team is equipped to understand how their business can be affected by one event instead of another.

### **Business and financial analysts**

There's no need to convince business and financial analysts of the value of BI. They're already there. Individuals in these roles tend to analyze at an even deeper level than the average business user or even business manager. At the same time, they are charged with using their combined business and technical knowledge to help business users make better decisions. They routinely strive to improve organizational performance by identifying key performance drivers and using that knowledge to update existing models.

Business and financial analysis are responsible for generating regularly published reports, along with running ad hoc reports. This is not a role that is always easy to fulfill given its reliance on others to provide updated, consistent data. In fact, many business analysts spend 80% of their time manipulating data in Microsoft Excel spreadsheets.<sup>2</sup> In addition, they are often liaisons between various operational resources to ensure the right data is available at the right time and in the right form. Increasing the power of the tools they already use, therefore, is paramount.

<sup>2</sup> Christina Torode, "Getting users to buy into a business intelligence strategy," SearchCIO.com, 20 April 2010

As they are already charged with conducting detailed what-if analyses on behalf of the broader organization, anything that increases the depth of analysis, reduces turnaround time by improving access to existing and new sources of internal and external data will drive their effectiveness in these pivotal roles. To help these in-demand resources get more done independently, with greater precision and for a broader set of stakeholders, there are scenario modeling and predictive analytics capabilities.

Scenario modeling is a more specialized level of analysis. Unlike analytical reporting and trending, which support business workflows, scenario modeling incorporates analysis of a broader range of alternative scenarios to help analysts begin building what-if-type projections. Consider the underperforming sales organization mentioned earlier. A business analyst could take this understanding and assess the impact of potential solutions by comparing different tactics such as modifying the existing product mix, pursuing new geographic markets, introducing a new marketing campaign or even tweaking the supply chain to better match supply to demand.

#### **Business analysts evaluate data to help casino determine customer behavior**

A major casino operator was looking for ways to grow its revenue base. This process required a decision on whether to invest \$1.5 billion in a new facility. However, the operator wasn't sure whether it had already maximized the revenue-generating capacity of its existing facility because it was not aware of what customers actually did in the casino. So, it implemented a frequent customer card and began tracking customer activity in more detail using a Cognos software solution. The data helped business analysts better understand customer activity, and they were able to provide real-time guidance to managers and other employees. As a result, the company reported an ROI of 389% and payback period of 4 months, while adding \$50 million to its bottom line results.

Along with scenario modeling, predictive modeling is emerging as a key means of understanding future performance and of organizational planning. This form of modeling analyzes past performance at a detailed level for more effective planning of future strategies and tactics. Although it has traditionally been performed by the most skilled analytical specialists in an organization to guide executive-level decisions, it is now possible for the wider community of business and financial analysts to take advantage of this capability. Extending the access to this business audience moves what-if analysis of scenario modeling into broader what-might-be-type analyses as well.



For example, a more thorough analysis of each of the potential strategies detailed by the scenario modeling effort identifies organizational resource availability, impacts and constraints associated with each identified scenario. Predictive modeling projects the organization forward and benchmarks it based on anticipated performance for each scenario. Outcomes of this highly specialized activity will guide and inform strategic decision making at the highest levels of the organization.

#### **Advanced analysts**

Advanced analysts are deeply skilled statistical specialists that find themselves under growing pressure to do more for a widely divergent audience in less time. For example, senior executives look to them for detailed analysis of issues of large-scale importance to the company and business analysts rely on them to pull data together for more consistent and thorough analysis. In addition, as capable as they are in statistical analysis, they have traditionally not been part of mainstream BI implementations—a disconnect that can compromise their effectiveness.

Advanced analysts also need to be able to bridge the gaps that typically slow down cross-organizational analysis. Depending on who places the request and what the particular need is, advanced analysts must often use separate toolsets to access data. In addition, they often build and test models for the entire organization to improve the overall ability to assess data and improve decision making.

As a result of this isolation and varying demands, advanced analysts need a solution that makes it easy to share statistical analysis to support business decisions with additional insight and validation. They do not have the time to struggle with multiple tools, the overhead of exporting data to different systems or the complexities of bringing results back together in a single output. Therefore, their statistical analysis solution should easily incorporate statistical results with core business reporting. It should also provide assurance that the statistical evidence that backs key business decisions is accurate and can be delivered easily to broader business communities in dashboards and reports.

#### **Achieving better patient outcomes with statistical analysis**

The Wesley Research Institute (WRI) is an independent, not-for-profit organization located on the grounds of The Wesley Hospital in Brisbane, Australia. The organization implemented IBM SPSS Statistics as part of its ambitious Clinical Outcome Improvement Project. The aim of this project is to collect and analyze patient data to establish clinical benchmarks, identify risk factors and improve treatment results. The statistics solution helps the organization quickly and accurately analyze large volumes of data from multiple sources and in various formats—patient demographics, discrete procedures, surgical complications, risk factors and post-operative tracking—delivering independent, unbiased information in a fully transparent process.

## How to provide analysis that meets all user needs

As we have demonstrated in the previous section, different users have different analysis needs. These users require specific capabilities to match their needs. Some are packaged in BI solutions while others are standalone software offerings. These different solutions, along with information silos, multiple platforms and the widespread use of spreadsheets, create analysis challenges for organizations. Organizations need software that makes it possible for all users to analyze information in a way that suits their roles and activities—without giving them too much or too little. Cognos analysis capabilities can help.

Cognos analysis capabilities provide custom workspaces, so everyone in an organization can directly harness internal and external information sources to provide perspectives and context. Each type of user has the visibility and access to all the information they need, at all angles and perspectives, to drive informed decisions without bogging them down in irrelevant or complicated data. They can merge corporate reporting data with information in spreadsheets, third party or departmental applications and discover unknown insights using their own trains of thought, by drilling and “slicing and dicing.”

For those with more advanced requirements, such as business analysts, Cognos analysis capabilities make it possible to drill down and filter real-time data and incorporate analysis of a broader range of alternative scenarios to build what-if projections. They can also incorporate and share statistical analysis to support business decisions with additional insight and validation and use reliable trends and patterns to predict future events and act on those insights for better business outcomes.

Employees in the field and the growing ranks of telecommuters and business partners who are not connected to company intranets need information and analytics to make quick decisions and actions. To foster understanding and engagement, there are Cognos analysis capabilities that work on mobile devices. Users can slice, dice and interact with information when they are not connected to BI infrastructure so that key decision-makers have insight into business information regardless of where they are. They can even access analysis results in Microsoft Office applications. Basically, all business users have access to analysis results—in whatever form they need.

## Conclusion

Dissimilar and disconnected analysis tools, information that is difficult to access, multiple environments and a dependence on spreadsheets can hinder effective decision-making at a time when organizations should be making better decisions faster. Cognos analysis capabilities address these challenges while meeting the needs of all users.

Executives and business users can easily view, assemble and personalize information to follow a train of thought and generate unique perspectives. Business analysts and line of business managers can analyze facts and anticipate tactical and strategic implications by ensuring the structure being analyzed is accurate, simply shifting from viewing to more advanced, predictive or what-if analysis. Advanced analysts can incorporate statistical evidence in reports, fulfill a wider range of requests more quickly and work more holistically with the company's BI solution.

In short, IBM Cognos analysis capabilities help business users make better, smarter business decisions without waiting for IT to deliver the requested information.

## About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, advanced analytics, financial performance and strategy management and analytic applications gives you clear, immediate and actionable insights into current performance and the ability to predict future outcomes.

Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest IT productivity and deliver better results.

## For more information

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