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# Why Smarter Business Begins With Better Reporting Tools

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## Executive Summary

Most of the business intelligence (BI) solutions on the market today have integrated reporting components. Other dedicated reporting programs integrate with existing BI and enterprise resource planning (ERP) systems to produce dashboards, scorecards, and all manner of business data presentations. However, IBM Cognos Business Intelligence is unparalleled in its ability to deliver powerful reports easily, quickly, and on any platform with a unified interface and user-friendly development tools.

Combined with IBM SPSS Predictive Analytics, Cognos Business Intelligence gives organizations the ability to view critical historical data alongside data in motion and even gain insights into future probabilities in a way that few integrated BI platforms can match. Cognos Business Intelligence is the tool of choice for organizations looking for graphical interfaces that allow non-technical users to ask (and answer) challenging questions while also enabling experienced business statisticians to model complex scenarios. Recent updates even allow these capabilities to extend across mobile devices as well, literally putting corporate data into any user's hands, when and where they need it, without separate mobile development efforts.

This paper describes the current state of BI reporting, significant trends shaping the industry, and ways in which IBM Cognos Business Intelligence satisfies challenging requirements in demanding, heterogeneous environments.

## Introduction

While business intelligence (BI) is, at its core, a database application used to aggregate and analyze a variety of organizational data, the real power of BI lies in reporting. When implemented correctly, BI reporting can meet decision support and analytical needs at all levels of an organization. More importantly, making BI applications readily accessible to business users and high-level leaders alike promotes a culture of objective, data-driven decision making.

## BI Reporting Trends and Emerging Requirements

BI reporting is evolving quickly with an increasing number of organizations leaving behind static dashboards and scorecards. Most businesses will define several reports that are either distributed regularly to users or that users can access on-demand. These might include sales numbers for the quarter, conversions from online ad campaigns in the last hour, or daily financial data. Smarter businesses, though, are leveraging much more user-centered reporting solutions such as:

- Self-service dashboards
- Ad hoc reporting tools
- Non-technical analytic tools
- Data visualizations

## Reporting for More Than Just the Past

The concept of BI reporting tools that provide more than information about the past is relatively new. Traditional BI tools were quite adept at displaying information about where an organization had been. A typical dashboard, for example, might display historical data charts and tables and provide scorecard “snapshots” of the key performance indicators described above. These scorecards often used visual cues like red, yellow, and green lights to indicate the current status of the key performance indicator (KPI): a green light, for example, meant that the organization was within an acceptable target range for a given KPI.

While these historical and snapshot views of business data are useful, organizations are finding even greater value in tools that incorporate predictive analytics, allowing users to look ahead and anticipate trends based on existing data. This has led to much more robust decision support from modern BI platforms that can combine traditional reports with future-looking information.

### Dashboards vs. Scorecards

The terms dashboard and scoreboard are often used interchangeably. However, they represent distinctly different types of BI reports.

Dashboards, in their simplest form, are collections of sub-reports. These reports might be charts, tables, or interactive elements. Dashboards may be delivered regularly as predefined reports for groups of users or, in more powerful solutions, may be self-service, allowing end users to customize their contents.

Scorecards, on the other hand, are much more specific reports showing where an organization stands with respect to key performance indicators (KPIs), or specific measures defined by the organization. Often, scorecards are among the elements that appear on a dashboard.

## Reporting Pain Points

As BI applications have become more powerful and more comprehensive, they have also grown in complexity. Often, IT departments are left not only managing the database components of BI platforms but also hiring report authors and absorbing substantial resources to meet the reporting and data access needs of the organization.

Because companies now rely so heavily on BI for decision support and both strategic and tactical planning, the return on investment in BI systems is clear-cut but the load on IT can become unsustainable. The imbalance often leads to:

- Lengthy delays in report development
- Significant time between data/report requests and access to critical data
- Backlash against the complexity and perceived speed/usability of the BI platform.

## The BI/Reporting Connection

Ultimately, the best BI systems are those with the best integrated reporting tools. If users can't access data, information, and business insights when and where they need them, the system is of little utility. Unfortunately, it's all too common for organizations to invest extraordinary sums in BI software only to have it underutilized because of inadequate and overly complex reporting tools.

A BI reporting solution needs to directly support fast, informative, customizable access to information. More importantly, data access needs to focus on users and decision-makers and not on over-stretched IT departments. Otherwise, BI is just one more database for IT to maintain. The right reporting capabilities unlock the data and turn it into information that can drive your business forward.

## Three Pillars of Powerful BI Reporting

If the right reporting tools are the key to transforming business data into real business intelligence, then what characteristics make BI reporting software "right?" The answer comes down to three pillars that support data-driven decision-making and smarter businesses.

### ***Ease of Use***

To end users who are inexperienced with business intelligence software, "ease of use" would be an obvious feature requirement. Word processors are easy to use. Web browsers are easy to use. Why should some of the most expensive and arguably the most important software in which an organization can invest be hard to use?

The unfortunate answer is that most BI reporting software was not developed for end users, but rather for programmers, data scientists, and others experienced with developing complex database queries and programmatically creating reports. This mindset needs to change across the industry and tools are now emerging that are

centered on the needs and expectations of end users rather than the capabilities of statistical programmers.

This is especially true of modern reporting platforms that integrate predictive analytics. Data scientists and power users heavily focused on BI need robust toolsets for developing the most complex models. However, the most useful reporting and analytics applications will provide advanced interfaces as well as graphical utilities that isolate non-technical users from statistical and programmatic complexity while still supporting decision-making at all levels.

### ***Interactivity***

Interactivity is more than a buzzword for the latest games or educational applications. Interactivity in the context of BI lets users:

- Visualize data in new ways
- Drill down through data cubes and various queries to explore complex data
- Model scenarios and formulate new questions (and then find new answers).

Running a smarter business and deriving real intelligence from business data, after all, begins with asking the right questions. Oftentimes, those questions aren't apparent without the ability to ask "What happens if...?" or "What changes when...?" or "What factors predict...?" Asking questions and authentically exploring data require direct interaction between the data and the end user. This simply isn't possible with legacy systems in which data scientists and programmers act as intermediaries, translating user queries into usable reports over periods of weeks or days. Modern BI systems, unlike their legacy counterparts, actually encourage users to interact in novel ways with business data.

### ***Mobility***

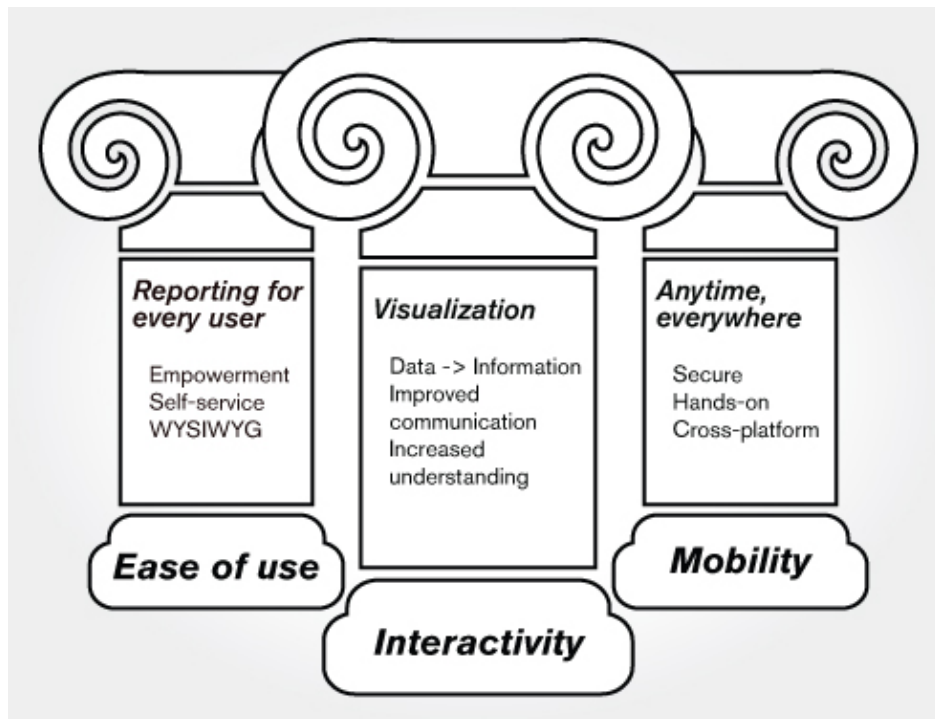
The proliferation and maturation of mobile devices has turned "mobility" into yet another industry buzzword. And yet, BI reporting tools built with mobility in mind ensure that users can access BI content when and where they need it. The now ubiquitous smartphones and tablets that accompany most users to every meeting, on every business trip, and through every commute become interactive portals to data, transforming ordinary meetings into data-driven work sessions and train rides home into an hour of insight and reflection.

Mobility in BI reporting, however, shouldn't become yet another burden on IT, now charged with making every report suddenly usable and available on every Android and iOS device users might drag into the office. Mobile components of BI reporting tools need to include automatic capabilities for making reports available easily across devices. They must also include appropriate security measures to ensure that

corporate data isn't compromised on laptops, phones, and tablets that are all too easily lost or stolen.

### **IBM Cognos Business Intelligence and the Three Pillars**

IBM Cognos Business Intelligence is a comprehensive, integrated BI platform that brings world-class reporting capabilities to users across organizations, regardless of their technical expertise. Cognos Business Intelligence is the best example available today of a system that incorporates all three pillars of robust BI reporting.



### **Reporting Beyond the Boardroom (and the Back Office)**

IBM Cognos Business Intelligence provides reporting tools for a wide variety of users. The intent and capability is to improve access to data (even big data) and information for all users, not just IT professionals and data scientists.

### **Empowering End Users**

Only a few years ago, BI applications were the exclusive domain of a small group of executives and highly paid data gurus. Cognos Business Intelligence provides the power and capability to satisfy the most data-hungry executives and statistical programmers. However, the reporting tools available out of the box are easy to use and encourage the natural use of data to drive everything from quality control to sales and marketing efforts.

### **Self-Service Eases IT Burdens**

Pre-defined dashboards delivered to users' inboxes on a regular basis ensure that everyone in an organization or on a team is up to speed with critical information. IBM Cognos Business Intelligence takes this several steps further with the ability for end users to create self-service dashboards. These customizable reports can range from simple tabulations useful for a single user to complete a specific task to deep and complex documents used to drive strategic planning for the entire business.

Not only do self-service dashboards provide new ways to empower users but they also dramatically ease the burden of BI management and reporting on IT. Self-service reporting means that access to business data can happen when employees need it, not when IT finally has a few spare moments to grant it.

### **WYSIWYG Tools – Leverage Data Now, Standardize Later**

The self-service reporting features in Cognos rely on visual and WYSIWYG interfaces to allow users to quickly generate dashboards and query data. This represents a huge technological leap over other reporting tools that are simply too complicated for the average end user to create meaningful reports.

This ease of use, however, can lead to “report sprawl” with countless views of data accumulating and preventing users from easily identifying and leveraging existing reports. Fortunately, Cognos includes utilities that allow users to create reports as they need them and then submit the reports to data managers for standardization, cleanup, and duplication prevention. IT retains ultimate control of the BI platform without making users suffer through Draconian policies and procedures just to access data.

### **Visualization**

The interactive capabilities that Cognos Business Intelligence brings to the table can have dramatic impacts across every line of business, both internally and with partners and customers.

### **Bridging the gap between data and information**

Business intelligence was originally conceived to aggregate and leverage a variety of data sources from across an organization, improving decision-making and building “smarter businesses” in the process. However, few people are well-equipped to look at lengthy data tabulations and actually abstract the relevant information.

Instead, visual presentations of BI data are far easier to use for decision support. Similarly, interactive visualization lets individual users ask and answer questions without delay and gather the information they need to understand the big picture.

### **Enhancing communication and understanding with interactivity**

For a small number of people, data tables are the best way to see and understand the information stored within a BI system. For others, charts and graphs are the most readily understood summaries of data. Still others respond to word clouds. Educators have known for some time that they need to differentiate their instruction if they want all students to understand a particular subject equally. IBM Cognos Business Intelligence now supports differentiated reports that can be generated on the fly to ensure that every person sitting around a conference table fully understands the ideas being presented.

The same can't be said of a static, death-by-PowerPoint presentation where data is displayed according to the presenter's sensibilities. There simply isn't an opportunity for viewers to interact with the data in different ways and develop their own understanding as there is with the interactive visualization tools in Cognos Business Intelligence.

### **For customers and clients, pictures are worth thousands of words**

Even if real interaction with data isn't possible, as might be the case with presentations to customers, partners, and clients, users have unprecedented visual reporting tools available through Cognos Business Intelligence. The smart sales or business development professional will leverage the interactive visualization tools and optimize documents and presentations with multimodal approaches and sharp pictures that communicate clearly and concisely to clients and customers.

In the end, reporting is about asking and answering questions and then presenting those answers to diverse audiences. Cognos Business Intelligence has the power and flexibility to do precisely that.

### **Data, Data Anywhere**

Finally, the mobility technologies built into Cognos Business Intelligence let users untether from their desktops and laptops securely the reports and visualizations discussed above, regardless of the device they are using.

### **But only with the right permissions**

Comprehensive mobile BI would be a risky proposition without security that:

- Kept data in corporate clouds and off devices
- Respected defined roles and permissions
- Handled authentication and federation seamlessly.

Not surprisingly, Cognos Business Intelligence enables access on virtually any mobile devices but holistically addresses security, regardless of where or how a user is accessing BI data.



### **Getting data into users' hands (literally)**

Mobile devices aren't just compelling because they are portable, although essentially being able to carry a company's BI software in a pocket is quite remarkable. The tactile nature of a touch interface on a phone, tablet, or the new breed of touch-enabled laptops brings an entirely new approach to exploring data. Combined with powerful data visualization tools, the mobile solution built into Cognos Business Intelligence encourages users to dive deep and leverage BI resources whether they are sitting in an internal meeting or negotiating a firm's next big sale.

### **In whatever form they need it**

All of this is useful, interesting, and novel. However, as with everything else that makes it into the domain of end users, the mobile reporting capabilities need to be easy to use. In this respect, Cognos Business Intelligence delivers again. Reports can by and large be created once and then are usable on iOS, Android, a laptop, or a massive desktop monitor, all without any additional steps or programming.

### **Conclusion: Business Intelligence and Highly Accessible Data**

Reporting is at the heart of the data-driven organization. However, reports can't be the sole domain of IT and report writers and they can't be defined or requested by executives alone. Instead, powerful reporting solutions like IBM Cognos Reporting let IT maintain control, visibility, and manageability of reports but open up new possibilities for users at all levels and in all lines of business.

At the same time, powerful integration and clear workflows connecting IBM SPSS Predictive Analytics to Cognos Business Intelligence bring the science of predictive analytics out of the ivory tower (or the corner office, or the back office) and into the hands of users. Organizations are exploring new opportunities with mobile BI, extensive visualization, and customizable dashboards and are using IBM Cognos Business Intelligence to push the boundaries of business intelligence. The result is smarter businesses through the most comprehensive, user-friendly BI reporting tools available.