Get more from BI
by understanding
your analysis needs

Cognos® software

Contents

Abstract

As organizations find themselves under mounting pressure to get more done with fewer resources and to drive agility, they're looking for tools that allow a broader range of people to more clearly assess how they're performing, where they may be deviating, and how they can get back on track, and beyond. Companywide BI deployment that adapts to the analysis needs and styles of key sets of users within the organization is the key to unlocking the true potential of BI.

By understanding the four styles of analysis and building deployment plans around these key pillars, organizations position themselves to maximize the ROI obtained from their BI implementations.

Overview

As markets become more competitive and the pace of business accelerates, this changing world forces companies to make faster, smarter decisions. They'll accomplish this by revolutionizing the way they manage information. Instrumented, interconnected and intelligent systems will enable revolutionary new levels of agility to transform their businesses to meet whatever challenges the economy decides to throw their way. They will drive an information-led transformation in their organization – driving competitive advantage with an acute ability to sense, respond, predict and act – by discovering new intelligence and implementing better decision-making processes that will ultimately optimize their business performance.

In order to do this, they need BI and Performance Management solutions that satisfy the different users in their organization. In the past, organizations have typically implemented analysis capabilities as a one-size-fits-all solution that fails to understand the unique needs of each audience within the organization. The net impact of this imprecise deployment strategy can include:

- Casual users may be overwhelmed with irrelevant, overly detailed information

- Power users cannot dig as deep as they would like

- Executives may lack clear and flexible visibility into real-time organizational performance

Failure to understand the unique needs of the various audiences and related stakeholders constrains the full potential of BI and introduces inefficiencies that can reduce or eliminate BI's return on investment (ROI).

By tailoring these analytical tools and processes toward each audience, companies of all sizes and in all sectors increase their chances of cashing in on BI's holy grail: Empowerment. Effectively tuned BI deployment empowers virtually any individual anywhere within the organizational hierarchy to leverage BI in a way that facilitates optimal performance within that given role.

Business problems

Limited audience

The bottom line benefits of BI are often not fully realized by many organizations due to limited user adoption. By broadening the appeal and use of BI beyond the traditional domain of specialists, power users and senior leaders, organizations can drive more aggressive returns on BI investment by unleashing its potential across the organization:

- **Executives** can see at a glance how the organization is performing, then quickly drill down to an appropriate level of detail that allows them to make fast, effective decisions

- **Business and financial analysts** can dig deeper and turn analyses around with greater speed and precision to improve the quality of data they're producing for themselves and for others

- **Business users**, who have traditionally relied on specialists for analytical expertise, can increasingly take control of the tools and pursue business-specific analysis on their own

Limited vision

BI takes knowledge that usually lies latent in extensive pools of corporate and external data and unleashes its potential. To accomplish this, companies must ask the following three key questions:

1. How are we doing?

2. Why are we performing as we are?

3. What should we be doing?

Question	Requisite BI Tools	Typical Scenario
How are we doing?	Scorecards Dashboards	On-time shipments are below plan
Why are we performing as we are?	Reporting Analytics	Production bottleneck due to material shortage
What should we be doing?	Scenario Modeling Predictive Modeling Planning	Methods used to address material shortage Projection of customer demand to determine future material shortages

As evidenced by the table above, 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. This analytical capability lets any organization 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.

Armed with this degree of granularity, individuals and teams at all appropriate levels of the organization would have the information they need 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 also makes it easier to execute on the resulting plans.

By extending targeted BI capability to the broadest audience of stakeholders, IBM Cognos BI and Performance Management software equips the organization to identify issues before they can potentially degrade organizational performance. The solution also gives tools to more people to actually do something about the issues. Breaking down traditional barriers to information drives organizational agility and enables companies to be more responsive to increasingly volatile external market conditions.

Limited fit

One size of analysis does not fit everyone. Depending on who you are, what your role is and where you find yourself on the org chart, your needs vary significantly. By understanding the four major types of analysis and relating them to specific roles within the organization, companies can avoid the common pitfalls that derail more traditional approaches to BI implementation. IBM Cognos 8 BI is based on an architecture that internalizes these styles of analysis and ensures appropriate tools are available to fit the workflows of each target role.

Type of analysis	User type	Needs	Primary use
Analytical reporting	Everyone in the organization	• Simple analysis	Drill down to more details or to associated reports
Trending	Business managers, business and financial analysts	• More advanced needs • Understand factors driving performance	Slice and dice, examine the information from differing points of view e.g. sales by geography, then sales by product line, then sales by product line within geography
Scenario modeling	Business and financial analysts	• Alternative scenarios	Understand the impact of various possible solutions to a problem e.g. revenue impact of structuring sales force by product line rather than by geography; cost impact of alternate sourcing approaches
Predictive modeling	Business, financial and statistical analysts	• Most advanced needs • Analyze past performance for future planning	What might be e.g. most likely follow up purchases after initial product purchase; most likely customers to churn

Business Drivers

Between salaries and benefits, employees represent a large, often dominant component of the average company's cost structure. Not getting the most out of this huge investment – employee-related ROI, if you will – is a huge drag on the bottom line.

Unfortunately, many organizations fail to derive value from their people. Employees often lack visibility into their roles – something that can hamper even the lowest-ranking staff members and impact overall performance. When a major casino operator was looking for ways to grow its revenue base, it needed to decide whether to invest $1.5 billion in a new facility. But before proceeding, it realized it didn't have a clear understanding of what its customers actually did when they came into the casino. Without this knowledge, it was hardly in a position to conclude that it had already maximized the revenue-generating capacity of its existing facility. It needed to give its employees at all levels of the organization the ability to track activities, assess results and make better business decisions. Only then would it be able to decide whether to build new or optimize its existing infrastructure.

Of course, to accomplish the seemingly impossible, workers at all levels of any organization require greater visibility into how the organization operates and how its performance rates against established baselines. A closer look at the key roles within the typical organization sheds additional light on the tactical and strategic benefits inherent in extending BI to the widest possible internal audience.

Business users and managers

These key roles represent possibly the greatest untapped sources of BI-driven capability enhancement. Traditionally, organizations have not deployed BI solutions – either at all or in any significant numbers – to these users, choosing instead to limit their availability to more specialized analysis and senior leadership roles. For those users and managers who required additional insight, they were typically forced to route requests for analysis through specialist resources.

IBM Cognos 8 BI takes tools previously reserved for power users and drives them into the organization's mainstream. Putting greater analytical capability into the hands of business users empowers them to deliver more effectively within the context of their respective roles and frees up specialists for more value-added contributions. Doing so in a streamlined manner is critical, as these individuals typically shy away from any new tool if they fail to immediately understand how it works.

A typical usage scenario in this case might involve a product manager analyzing a purchasing report that highlights a recent reduction in purchasing activity. The report would allow the manager to pull up related, pre-built reports that provide additional insight into what's driving the reduced demand. A report outlining a relatively large number of unresolved customer service requests, for example, would indicate an immediate red flag. By allowing line-of-business users to drill across previously unrelated data stores and seamlessly gain access to relevant data, BI extends organizational capability, allowing more people to get more done, more quickly and less disruptively.

By using the inherent capabilities of the platform to anticipate the most common usage scenarios in advance and serve up the appropriate analytical resources, IBM Cognos 8 BI doesn't force the mainstream business user to learn overly complex tools or even understand how everything works under the covers. This pre-built form of guided analysis instead maps directly into the role at hand, and allows more users to take immediate advantage of this extended capability.

Business and financial analysts

Individuals in these roles tend to understand BI at a deeper level than the average business user. At the same time, they are charged with leveraging 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.

They are responsible for generating regularly-published and ad hoc reports – a role that isn't always easy to fulfill given its reliance on others to provide updated, consistent data. They often liaise between various operational resources to ensure the right data is available at the right time and in the right form.

IBM Cognos 8 BI gives business and financial analysts the ability to bridge the needs of business and technical teams and provide an optimal level of business-driven analysis. Streamlined report generation capabilities allow them to spend less time building different reports for different audiences – which frees them to allocate more time to communicating the results to their various stakeholders.

Statistical analysts

These are the deeply skilled statistical specialists who find themselves under growing pressure to do more in less time. As capable as they are in statistical analysis, they have traditionally not been part of mainstream BI implementations – a disconnect which can compromise their effectiveness. They're time-stressed because they serve multiple masters, including senior executives who look to them for deeper dives on issues of large-scale importance to the company, as well as those below them in the hierarchy, such as business analysts, who rely on them to pull data together for more consistent and thorough analysis. They often build and test models for use across the organization to improve the overall ability to assess data and improve decision making.

To better serve their diverse groups of stakeholders, statistical analysts often use data from various internal and external sources. Whether the data resides locally, in the corporate data warehouse or on a Web-based store, it must be normalized and consolidated to facilitate consistent analysis. Depending on who places the request and what the particular need is, statistical analysts must often use disparate toolsets to build databases, data manipulation macros and cubes.

By partnering with BI specialists within the organization, statistical analysts can squeeze more utility out of the data and add value for the organization. BI specialists can point toward the most effective sources of data, while statistical analysts can provide insight into how to unlock that data's potential.

IBM Cognos 8 BI encourages these kinds of relationships by cutting across the gaps that typically slow down cross-organizational analysis. It allows statistical analysts to more quickly consolidate data from disparate sources, conduct more extensive analyses of the resulting datasets and distribute the outcomes, at audience-appropriate levels, across the organization. It allows these in-demand resources to get more done, with greater precision, and to do so more independently and for a broader set of stakeholders.

In the case of the aforementioned casino operator, it implemented a frequent customer card that allowed it to track customer activity at a more granular level. The resulting treasure trove of data helped the casino better understand what their customers were doing, and allowed them to provide real-time guidance to managers and other employees to optimize the customer relationship. This rich, cross-organization analysis within IBM Cognos 8 BI helped the casino identify a wide range of revenue-maximizing opportunities and avoid building an expensive new facility.

Solutions

The ideal target state for any BI implementation is based on a clear understanding of the four key styles of analysis that exist within virtually all organizations regardless of size or market sector.

1. Analytical reporting for all users

What it is

Everyday, relatively simple analysis performed by a wide range of stakeholders throughout the organization, many of whom would not typically view themselves as fully trained users of traditional BI solutions. Such analysis is often used to provide a basic level of additional insight to a particular performance metric, to answer a straightforward question that doesn't necessarily require invasive analysis.

Typical example

A business user reviewing last month's sales figures notices they seem abnormally low. By leveraging guided analysis that allows straightforward drill-through, the user can understand what's driving these results – and can more effectively explain this to leaders and other stakeholders. Similarly, managers who discover anomalies in results can then 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.

Why it matters

Traditional solutions would often require these employees to seek external help, often through the help desk. Given the resourcing constraints associated with calling a help desk, logging a ticket and then waiting for appropriate resources to be assigned, many business users would either make the call using the information on-hand – which was often incomplete – or wait for a response from IT.

2. Trending for managers and analysts

What it is

Analysis performed by a broad range of business managers and business and financial analysts that is somewhat more advanced than the simple answers sought by regular users across the organization. It allows business managers to better understand how they are performing relative to baseline, where variances may be occurring, and why they may be occurring. Trending examines the underlying factors that drive organizational performance, and requires improved access to a wider range of data resources.

Typical example

The manager overseeing the clerk from the previous example might take the initial report outlining the underlying performance weakness that led to last months' underperforming sales figures and use it as the basis for a more complex analysis. By comparing the results against other product lines from elsewhere in the organization – as well as against industry figures from external data sources – the manager can place the performance in context and better understand what the figures mean, and what that meaning implies for a potential organizational response.

Why it matters

Greater capability to examine a wider range of data drivers to better explain organizational performance can significantly enhance the average business manager's ability to manage resources to a given plan. The target audience may not be data specialists, but an enhanced ability to independently analyze why certain results are being realized allows more precise management over time and reduces the risk that sub-par performance will be missed until it is too late to resolve.

The accelerating pace of business places growing pressure on managers to get answers to more complex questions – and to get them faster than ever before. Beyond being able to independently dig a little deeper to get answers that formerly required external support, they also find themselves needing to extend their analytical capability out by reaching across 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 more disparate audience.

Because they are not data specialists, they need to accomplish this within the context of tools they're already familiar with – or can be easily trained in after being convinced that it's worth their while to figure out on their own. For example, a sales manager looking for greater insight into why one particular region consistently outperforms the others would typically refer the research to a data analyst. The mix of tools within IBM Cognos 8 BI makes it realistic to put this capability right into the hands of sales managers and others like them. By giving them a deeper and broader ability to analyze data and understand the factors driving performance, organizations can raise the level of their game.

3. Scenario modeling for business and financial analysts

What it is

A more specialized level of analysis performed by business and financial analysts. Unlike analytical reporting and trending, which are generally supportive of business workflows, scenario modeling is a more specialized, focused analytical activity. Beyond trending, which focuses on what has already occurred, scenario modeling incorporates analysis of a broader range of alternative scenarios to help analysts begin building what-if-type projections.

Typical example

Leveraging the underperforming sales organization from the earlier examples, a business analyst could take this understanding and assess the impact of potential solutions. For example, a what-if analysis would allow side-by-side comparison of a variety of tactics that could include 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.

Why it matters

There's no need to convince business and financial analysts of the value of BI. They're already there. Increasing the power of the tools they already use, however, is paramount. 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.

IBM Cognos BI and Performance Management software streamlines the analytical process and empowers the analyst to conduct more iterations more quickly – which increases analytical precision – and allows more relevant comparison with similar scenarios thanks to greater access to data stores wherever they may live and whatever form they're in.

The platform also conforms to the analysts' existing workflows and does not force them to adapt themselves to inflexible processes or interfaces. This scalability ensures the tightest fit with the widest possible audience – a factor which further enhances the ROI of BI by maximizing its reach within areas that can most benefit from it.

4. Predictive modeling for business and financial analysts

What it is

Predictive modeling analyzes past performance at a detail level to more effectively plan future strategies and tactics. Although it has traditionally been performed by the most skilled analytical specialists in the organization to guide executive-level decisions on organizational direction, only recently has IBM Cognos BI and Performance Management software made it 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.

Typical 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 under each scenario. Outcomes of this highly specialized activity will guide and inform strategic decision making at the highest levels of the organization.

Why it matters

Evolved forecasting is more critical than ever before as business cycles accelerate and influencing factors on organizational performance become less predictable. Deeper analysis of past performance is emerging as a key means of understanding future performance – and of organizational planning. The level of analysis required to tighten this planning process is rapidly deepening and broadening. Analysts must assess larger pools of historical data and they must do so across silos that formerly limited the breadth and depth of analysis.

Once the analysts complete these deep dives, they are further challenged to render the resulting complex rationales in a manner appropriate to the external audience. This traditionally represents a roadblock for this group, as the senior executives and business managers on the receiving end of these reports may not necessarily understand the subtle nuances of the deep statistical analysis that generated the reports in the first place. In many cases, great analysis can be ruined by overly complex reporting.

IBM Cognos BI and Performance Management software contains enhanced tools and workflows that allow a wider audience of more mainstream business analysts to take advantage of this capability while at the same time allowing the organization's data wizards to more easily format the outcome of their work to a broad array of audiences – all without diluting the core value of the analysis. As companies grapple with the need to more precisely plan their future business activities, this kind of deep yet easily consumed analysis is crucial.

Conclusions

It is increasingly clear that a single flavour of BI is woefully insufficient for most modern organizations. Depending on who is doing the analysis and where they live on the org chart, their needs for specific types of analysis are diverse enough to require unique tools and processes. Traditional BI won't cut it because it just doesn't put enough capability into enough hands to make enough of a difference to the average company still struggling with the effects of – and the opportunities presented by – the current economic climate.

At the same time, it has also become apparent that for BI to realize its full potential as a driver of business growth, it must be deployed beyond the traditionally limited scope of dedicated analysts and senior leaders. By extending the focused analytical capabilities of audiences such as business managers who have traditionally relied on others for this capability, organizations empower ever larger numbers of employees to get more done in less time, and to consume fewer resources in the process. They give greater flexibility to their people, allowing them to improve individual and organizational agility. This kind of responsiveness is the lifeblood of survival and future competitiveness.

IBM Cognos BI and Performance Management software scales up and down – depending on need – to the widest range of organizational roles. It's been designed to maximize the benefit of BI without necessarily forcing users to adapt workflows that don't fit the way they work. It's more than BI for the rest of us. It's BI for the future of your business, whatever that future may bring.

About IBM Cognos BI and Performance Management

IBM Cognos business intelligence (BI) and performance management solutions deliver world-leading enterprise planning, consolidation and BI software, support and services to help companies plan, understand and manage financial and operational performance. IBM Cognos solutions bring together technology, analytical applications, best practices, and a broad network of partners to give customers an open, adaptive and complete performance solution. Over 23,000 customers in more than 135 countries around the world choose IBM Cognos solutions.

For further information or to reach a representative: www.ibm.com/cognos

Request a call

To request a call or to ask a question, go to www.ibm.com/cognos/contactus. An IBM Cognos representative will respond to your enquiry within two business days.

Disclaimer

While every attempt has been made to ensure that the information in this document is accurate and complete, some typographical errors or technical inaccuracies may exist. IBM does not accept responsibility for any kind of loss resulting from the use of information contained in this document.

This page shows the publication date. The information contained in this document is subject to change without notice. This text contains proprietary information, which is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, stored in a retrieval system, transmitted in any form or by any means, or translated into another language without the prior written consent of IBM.

The incorporation of the product attributes discussed in these materials into any release or upgrade of any IBM software product – as well as the timing of any such release or upgrade – is at the sole discretion of IBM.

U.S. Government Restricted Rights. The accompanying materials are provided with Restricted Rights. Use, duplication for disclosure by the Government is subject to the restrictions in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013, or subparagraphs (c) (1) and (2) of the Commercial Computer Software – Restricted Rights at 48CFR52.227-19, as applicable. The Contractor is International Business Machines Corp., New Orchard Road, Armonk, New York, 10504.

This edition published October 2009.

Copyright © 1989-2009 IBM Corp.