
The Promise of In-Memory Analytics with IBM Cognos TM1

The goal of this chapter is to continue our conversation about the increased demands on planning and analysis processes in global organizations, and to share how Cognos TM1 has met and continues to meet the broadest planning and analysis requirements in the industry. Over 4,000 companies spanning all industries have come to depend on Cognos TM1 to help drive decisions across their organizations. This chapter will review today's highly volatile business environment and how leading organizations have met these challenges to drive increased performance with Cognos TM1. These demands range from increased market pressures, investment demands, and strategy validation to regulatory requirements for decision transparency. These increased demands require a fusion of planning and analysis capabilities at every level of decision making across an organization to create a more agile organization that can meet these diverse requirements. These requirements fall into four key areas:

- Enterprise planning
- Scenario analytics
- Extending your ERP solutions
- Extending data warehouse value

Let's start our discussion on some of the key attributes of Cognos TM1 that drive its broad use and adoption.

In-Memory Analytics with Cognos TM1

The rise of the importance of in-memory analytics is directly tied to the increase in volatility of the current business climate. In-memory analytics promises to provide business users with highly responsive ways to analyze data and create new information through planning and forecasting. Cognos TM1 provides the ability to calculate on demand key metrics facilitating scenario analysis, planning, and forecasting across an organization. Because of this, users can examine current business assumptions and test alternative business scenarios to meet business goals.

In-memory analytics has grown due to business requirements and advances in hardware and software technology, such as 64-bit operating systems, multicore processors, and improvements in processor speed. What was once relegated to the most cutting-edge technology has become standard technology for organizations seeking to optimize their decision processes. The improved price/performance ratio of in-memory analytic solutions, due to reduced hardware and software costs and superior performance in meeting business requirements, has driven broader adoption of these solutions in the enterprise.

As we will review in more detail in Chapter 3, Cognos TM1 takes a unique approach to in-memory analytics that elevates the in-memory approach by combining analysis and write-back to create an integrated planning and analysis solution to meet the broadest planning, forecasting, and analysis requirements. Cognos TM1 architecture from its earliest incarnations was in-memory based. In-memory–based systems provide the highest calculation performance and user interaction with reduced latency. This concept is at the core of all Cognos TM1–based solutions that are extended by rich clients to serve finance, line of business, and IT.

So the question arises as to how to evaluate key attributes of an OLAP solution to meet business user requirements. Fortunately, Edgar F. Codd and Nigel Pendse have provided guidance, as mentioned in Chapter 1. Let’s take a look at Cognos TM1 first through the lens of Codd’s 12/18 rules of OLAP. Cognos TM1 includes basic, special, supporting, and dimensional control features.

Basic Features

The basic features of Cognos TM1 include

- **Multidimensional conceptual view** Cognos TM1 supports high-performance ad hoc slicing and dicing of data across unlimited business-defined dimensions.
- **Intuitive data manipulation** Cognos TM1 supports drag-and-drop manipulation of data as well as unlimited nesting of dimensions on the row and column axis.
- **Accessibility** Cognos TM1 is a high-performance in-memory OLAP server that supports a range of clients to meet the broadest requirements of planning and analysis.
- **Batch extraction vs. interpretive** Cognos TM1 provides a highly interactive persistent data store as well as supporting drillthrough to source data.
- **OLAP analysis models** Cognos TM1 provides support for a broad range of business models.
- **Client/server architecture** Cognos TM1 supports both a client/server (two-stage) architecture as well as a web-based architecture (three-stage) for web deployment, which separates the data store and presentation layer to support the use of various clients.
- **Transparency** Cognos TM1 is uniquely embedded in the existing user experience through both Microsoft Excel and the most popular browser-based clients.
- **Multiuser support** Cognos TM1 provides concurrent data retrieval and writeback with role-based security.

Special Features

The special features of Cognos TM1 include

- **Treatment of non-normalized data** Normalization of data refers to storage and organization of data that reduces redundancy. Cognos TM1 provides the ability to work with normalized and non-normalized data.
- **Storing OLAP results** Cognos TM1 stores all metadata. OLAP data results should be kept separate from source data systems.
- **Extraction of missing values** Cognos TM1 does not store missing data, creating very efficient data storage.
- **Treatment of missing values** Cognos TM1 ignores missing values.

Reporting Features

The reporting features of Cognos TM1 include

- **Flexible reporting** Cognos TM1 as a component of Cognos BI provides a broad range of reporting capabilities that presents information based on user requirements.
- **Uniform reporting performance** Cognos TM1 provides consistent performance as models and users grow.
- **Automatic adjustment of physical level** As a read/write OLAP program, Cognos TM1 is self-adjusting as attributes of the model, such as data volumes, user counts, and density, increase.

Dimensional Control Features

The dimensional control features of Cognos TM1 include

- **Generic dimensionality** All Cognos TM1 dimensions are treated the same way, allowing for greater modeling flexibility.
- **Unlimited dimensions and aggregation levels** Cognos TM1 supports virtually unlimited dimensions and aggregations.
- **Unrestricted cross-dimensional operations** Cognos TM1 allows for calculations and data manipulations for any number of dimensions through its extensive rules language that provides not only cross-dimensional calculation but also cross-cube calculation.

Also, Cognos TM1 exceeds these attributes by support of three-tiered web architecture as mentioned earlier, as well as providing workflow, which is critical to a read/write application that spans thousands of users. Now let's turn our attention to how Cognos TM1 manifests itself in key solution areas to drive greater organizational performance.

Enterprise Planning

As noted in Chapter 1, there is increased pressure due to volatility and velocity of change in our current business environment. These increased demands included market pressures, investment demands, and strategy validation as well as regulatory requirements for

decision transparency for stockholders. These demands are reducing the cycle time between forecasting and analysis, requiring a fusion of planning and analysis capabilities at every level of decision making within an organization.

Cognos TM1 is specifically designed to meet the broadest requirements of planning and forecasting within an organization. As noted in Figure 2-1, to meet evolving customer requirements, Cognos TM1 provides the ability to analyze key performance gaps and quickly move to model alternative scenarios and finally deploy those models in an application context through a rich set of web and desktop clients. We will expand on these key capabilities in Chapter 3.

Cognos TM1 provides a rich set of capabilities that allow organizations to reduce long planning cycles, disconnected operational and financial plans, reliance on spreadsheets, lack of ownership, and lack of accountability and control. Let's take a look at these areas a bit more closely. Cognos TM1 reduces long planning cycles in a number of key ways, which include

- Providing a centralized data store with consistent data definitions, reducing data errors.
- Automating the submission process through workflow, thereby reducing data collection.
- Using popular clients like Microsoft Excel by extending their capabilities with a centralized data model.

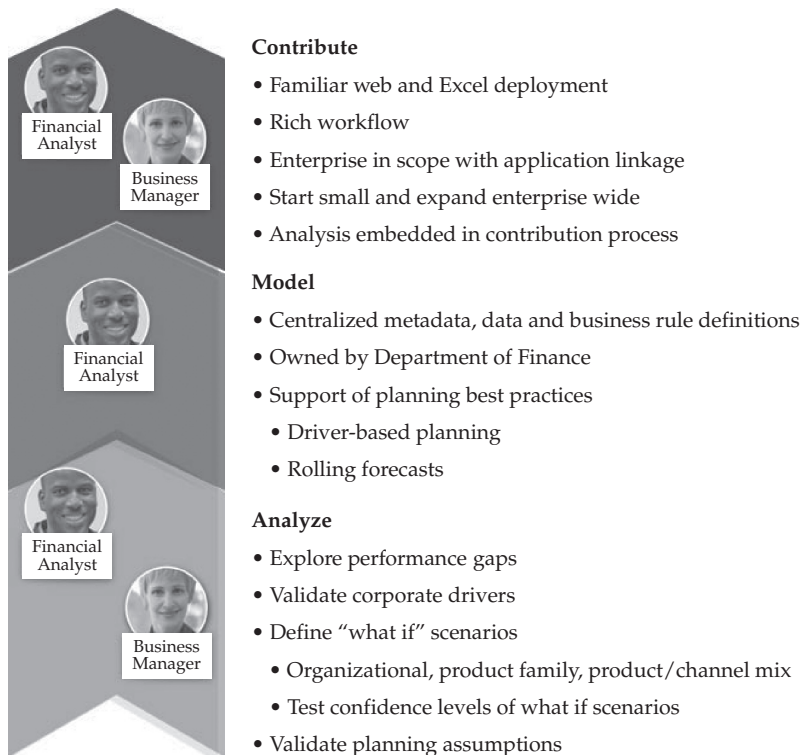


FIGURE 2-1 Evolving customer requirements

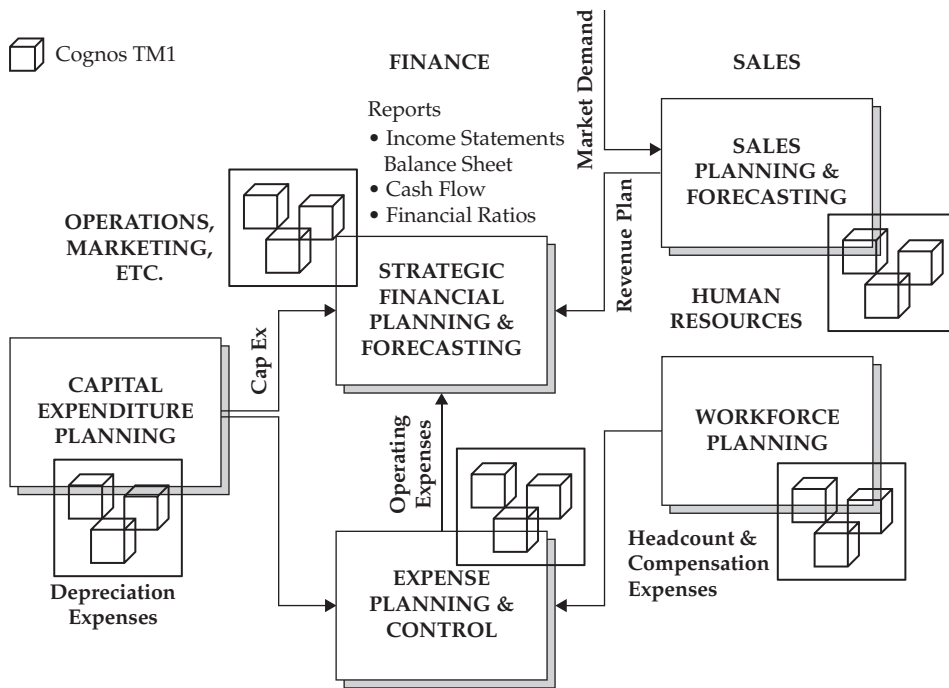


FIGURE 2-2 Cognos TM1 planning solutions

- Eliminating the control and versioning problem.
- Providing a standardized planning toolset that can be applied to both operational and financial planning, thereby creating a planning and analysis network across an organization (see Figure 2-2) that connects financial plans with operational realities, driving better decisions across an organization.

Now let's turn our attention to some key companies like First Command and Eraring Energy, who are using Cognos TM1 to meet and exceed their planning requirements.

First Command

Founded in 1958 with a mission to improve the financial well-being of America's professional military families, First Command Financial Services¹ today serves clients from all walks of life at all stages of life. A Registered Investment Adviser firm, First Command develops and delivers comprehensive financial plans to assist American families in their efforts to reduce debt, build wealth, and pursue their financial goals and dreams. First Command embraces time-tested financial principles, advocating a disciplined, long-term approach to saving and investing, supported by strategies to manage financial risk. And First Command supports

¹ IBM case study: From spreadsheets to streamlined planning: Business analytics at First Command. 12 Jan 2011. <http://www-142.ibm.com> | Software | Library.

their clients' pursuit of their goals with a wide range of investment, insurance, and banking products and services. Through a values-centered approach to financial planning and a "client-first" philosophy, First Command has for 50 years established lasting relationships with hundreds of thousands of client families. First Command is committed to helping clients plan confidently for the future and to accompanying them on their financial journey.

Business Challenges

The Finance Department at First Command had been using PowerPoint, spreadsheets, and multiple data sources to analyze and report on the company's financial performance. The manual process was plagued by a number of issues: It was time-consuming, prone to errors, had no audit trail, and left little time for analysis, planning, or forecasting. "We wanted to do more in-depth, bottom-up forecasting, but the spreadsheets and Access databases really weren't doing the trick," says Sunday Grace, Director of Financial Analytics at First Command. "We were managing multiple databases, multiple spreadsheets being e-mailed back and forth and no collaboration tools. So there were a lot of pain points when it came to using these tools for everything." As well, the system couldn't address some of the heavier reporting and analysis requirements that were being driven by changes in market conditions and the information requirements of the executive team. What the company needed was a single, dynamic platform to collect, consolidate, analyze, and report on financial data—and provide deeper insight into company performance, financial measurement, and more accurate predictability. A Cognos business analytics solution offered the answer.

Benefits Realized

Today all financial reporting and budgeting is done using TM1 and a SQL database. To get there, the consulting team built the processes to go in and update GL accounts and various modules such as fixed assets and accounts payable. As well, payroll data feeds are pulled in from an Oracle database. To help the department even further, the team built an approval process into the system to automate the workflow rather than depending on the manual steps that were done previously.

In addition to more efficient budgeting, reporting and analysis have become much easier with Cognos software. "We're developing more and more reports that are helping us," says Grace. "It's scaled back on the time that I have to spend writing reports. Because once you get these reports written, you can update them, they can be refreshed, and they're drillable. So I have more time for high-level analysis, which is where the value add for my time is." It's been a learning process: what kinds of reports to develop, how TM1 works, testing and integrating various calculations. The company handles "some pretty complicated revenue calculations because of our business," notes Grace. Here again, the tool has helped reduce the time spent on processing and compiling. She also adds that the software has been quite easy to understand and use, allowing her to go in and build things like cost allocation cubes for product profitability modeling and reporting. "I'm not a technical type of person. So for me to be able to go in and use the development side of TM1 is quite remarkable."

Version Control, Better Reporting The department now has standardized reports and uses a SharePoint collaborative tool for distribution. So everyone accesses the same information in a consistent format. A secure reporting platform also ensures that users only see what they need to see. "We put all of our reports in SharePoint," says Grace. "And we have one version

of each report. If we need to see a report, we don't have to worry about which iteration of the spreadsheet is out there. We don't have to be concerned about whether or not we have the latest version of the financials." Using Cognos, it is also much easier for department heads to go in and update their expenses by line item and drill through to the underlying data if further analysis is required. This provides increased accountability—with more detailed reporting, management can see who is accountable down to the transaction level, which helps them better manage their areas of the business. As well, the real-time information updates mean less of a burden on management, particularly at month-end when financials are reviewed by the CFO and require changes. The process is now much faster. "The GL group used to have to go in and update the database, then update the spreadsheets. It would take 30 to 40 minutes just for the database, followed by a ten-step process to get the financials up to date. Now we run a seven-minute process that goes in and updates all of our GL into a cube with the real-time data."

Compliance Finally, while compliance and data governance are largely handled by another group in the organization, the Finance Department has been able to use the capabilities of the Cognos system to improve regulatory reporting. They are also able to conduct operational expense budgeting. "We've been able to use the hierarchies that are built within TM1 to create different types of reports," says Grace. "We're in the process right now of building our auditing and some of the regulatory reporting we need to do. We have to roll things up differently, depending on which company or which agency we're reporting to. So it's been very helpful to be able to go in and use these hierarchies, which we didn't have before."

In summary, in only three months' time, First Command Financial Services increased operational efficiency and decision making by

- Automating data collection to reduce the risk of manual errors
- Creating a central data repository for historical consolidated financials and current plans
- Reducing financial reporting cycle time
- Developing budget and forecast targets that are linked to all levels of the organization
- Ensuring collaborative planning between operating units and key contributors
- Migrating toward a rolling forecast
- Improving regulatory reporting

Eraring Energy

Eraring Energy² is a state-owned corporation that manages a diverse set of electricity-generating assets located throughout New South Wales, Australia. Eraring Energy's portfolio has a number of generators including a thermal power station, New South Wales' first wind farm, hydro sites, and pumped storage schemes. Eraring Energy has a combined generating capacity of over 3,000 megawatts (MW), including the Eraring Power Station at 2,640MW, which is Australia's largest.

² IBM case study: Eraring Energy adopts TM1 Web for collaborative budgeting and forecasting. 05 Oct 2010
<http://www-142.ibm.com> | Software | Library.

Business Challenges

Managing a diverse set of electricity-generating assets located throughout New South Wales, Eraring Energy not only needed to provide efficient energy sources, but it also needed to run their business operations much the same way: in a timely, accurate, and efficient manner.

With a generation portfolio consisting of ten power stations—86 percent of capacity being sourced from Eraring Power Station and the remainder consisting of smaller hydro and wind generation plants—Eraring Energy’s employees range from shift workers, contractors, and day workers, right through to executives. With such a wide range of employment levels and pay structures, labor budgeting and forecasting had become complicated due to manual processing with a substantial amount of cost averaging.

According to Adela Murphy, Eraring Energy’s Financial Systems Accountant, “The problem with running our labor budgeting manually meant that it was not only time-consuming but inaccurate and unreliable. We had a lot of cost averaging and it was difficult to identify where the variances were coming from.”

Strategy

The primary requirement was to use Cognos TM1 to identify real labor costs by sourcing the variances accurately, with plans to decentralize the financial reporting at a later stage using Cognos TM1 Web.

In 2004 Eraring Energy decided to implement TM1 into their labor forecasting system, with assistance from IBM and its partner Cubewise. With implementation complete after only one month, TM1 saved the finance department at least two weeks in data entry and consolidation in quarterly labor forecasting.

Murphy commented, “With TM1 we can now pinpoint why the labor budget is out. Once we had streamlined the process, it improved our labor budget variance analysis.” The next area of focus for Eraring Energy was to address the issue of accountability of the budgeting process. By deploying budget data entry and reporting via the web, Eraring Energy was able to decentralize their budget and forecasting system—responsibility and accountability immediately shifted from the finance department to the cost center managers. Murphy describes the Cognos TM1-based budgeting and forecasting system as “a revolution.”

Following the initial success of Cognos TM1 in the finance department, Eraring Energy took the necessary next steps of web-enabling their budgeting, forecasting, and reporting system with the deployment of TM1 Web. By decentralizing the budgeting, forecasting, and reporting, both management and cost centers were given direct access to the monthly reporting, which gave cost center line managers greater control over their labor cost, and more importantly, it gave them total accountability for their own budgets. Managing the budget over the web saved two to three weeks in just consolidating and reconciling—now it is instantaneous.

“Decentralization and accountability of our budgeting and forecasting system was enabled by deploying Cognos TM1 Web. Our cost center line managers can now access, view, and manage their respective cost center reports. Budgeting time was substantially decreased and line managers now have the ability to retrieve their financial reports in an easy-to-use format and timely manner.”

The main elements of Eraring Energy’s budgeting and forecasting system involved labor costing and data analysis. Labor costing is a very large part of Eraring Energy’s expenses, so accuracy was crucial. Using this, Eraring Energy is able to readily identify

variances down to individual levels and breakdown by rate and hours; and manage headcount and annual, long service and other leave.

Benefits Realized

By implementing Cognos TM1 and TM1 Web, Eraring Energy transformed their complicated financial and labor reporting into a streamlined, web-enabled system providing accurate, timely analysis and accountability throughout the organization.

Labor information security was also an issue, so moving this information into TM1 allowed control of security down to an element level—a substantial improvement to the existing system.

The variance analysis process used to be heavily time-consuming. Once this reporting process was implemented, it eliminated discrepancies of figures, giving management more time to spend on labor strategy. Minimizing figure analysis was definitely a value add to the variance process.

Now, having such easy-to-use financial reports that can break down the information by employees, hours, labor rates, and so on, the finance department no longer has to do financial interpretation for the line managers. In the two years since the system was put in place, Eraring Energy now run their labor budgeting and forecasting four times per year as opposed to only once per year. All cost center line managers are monitoring their labor variances more closely now that the system is more accurate.

“We used to close off the account each month and then create, run, and distribute the reports via e-mail—all of which took 3–4 days. Now we can close off the month and reconcile, then notify the cost centers to log on and view their reports,” continued Murphy.

Management now conducts monthly business review meetings with the financial reports as an integral part of these monthly reviews.

Each of these success stories highlights the role that Cognos TM1 provides in reducing long planning cycles, disconnected operational and financial plans, reliance on spreadsheets, lack of ownership, and lack of accountability and control.

Scenario Analytics

Now let’s turn our attention to how Cognos TM1 meets increased business requirements for analysis. As mentioned earlier, given the rise of uncertainty and volatility in organizational assumptions and business models, there is an increased requirement for scenario analytics to manage this uncertainty. Cognos TM1 provides the ability to evaluate several outcomes of a potential strategy before making a final decision. These include the following:

- Explore and test “what if” scenarios
- Reduce risk and create contingency plans
- Formulate growth strategies
- Best responses to economic change, a competitor move and marketing
- Optimize price, channel, and marketing strategy for profitability

As noted in Figure 2-3, Cognos TM1 helps organizations meet the broad spectrum of analysis requirements in order to meet business requirements.

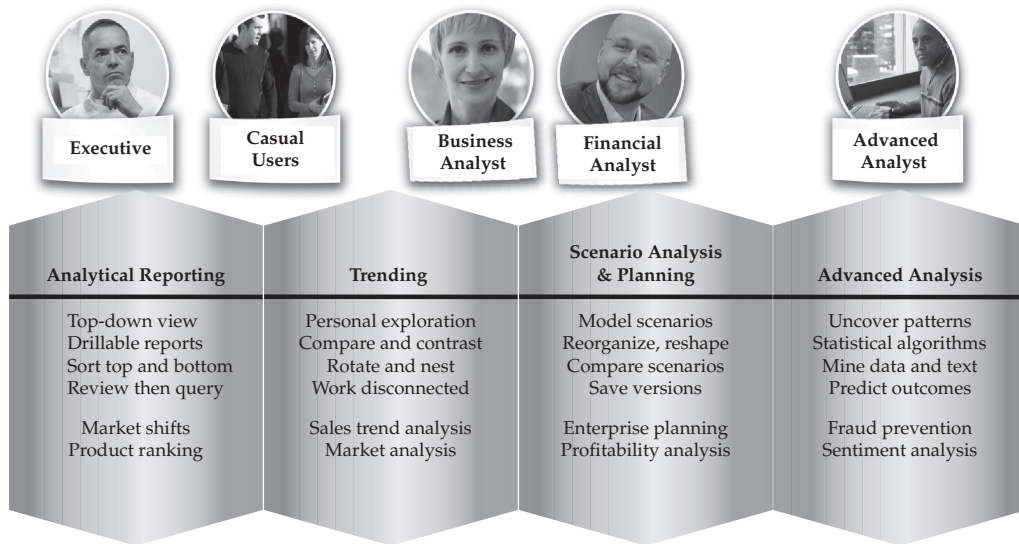


FIGURE 2-3 Analysis requirements

These requirements include analytical reporting, trending, scenario analysis, and advanced analytics. Cognos TM1 plays a critical role in providing scenario analysis to global organizations. Although Cognos TM1 key features will be covered in more depth in the following chapters, let's look at some key features that Cognos TM1 supports, which include

- A high-performance in-memory OLAP server that is specifically designed for high-performance ad hoc exploration of data.
- Support for calculation on demand that allows for instantaneous updates of data, metadata, and business rules allowing for reduced latency in analysis and modeling.
- Full support for writeback across all dimensions for testing of assumptions.
- Support for unlimited user-defined scenarios through personal sandboxes.
- A broad range of desktop clients as well as web-based clients to facilitate analytical reporting, trending, scenario analysis, and advanced analytics.

Each of these features plays a critical role in providing business users with the ability to test "what if" scenarios to reduce risk, formulate growth strategies, and optimize decisions to drive profitability across an organization. These features and best practices will be explored in the following chapters.

Now let's take a look at how Sun World and British Arab Commercial Bank are realizing benefits of Cognos TM1 to deliver scenario analytics.

Sun World

Sun World³ was established in early 1976 as a packer and marketer of fresh fruits and vegetables. In the 1980s, consumption of fresh fruit and vegetables was on the rise and consumers were increasingly seeking better-tasting, more conveniently available produce. As the market changed, so did Sun World. The company exited the commodity fruit and vegetable business and became involved in the farming, packing, and marketing of an extensive collection of specialty-branded produce. Sun World initiated a series of relationships with various research and academic organizations around the world, setting out on its quest to improve the flavor, color, texture and overall quality of specific fruits and vegetables. Throughout the 1980s and early 1990s, the company introduced more mainstream-branded fresh produce items to the marketplace than any other agricultural company. Produce included the sweet red pepper (1983), the seedless watermelon (1988), a vine-ripened tomato with long shelf life (1990), and the Black Diamond brand plum (1992). Other notable products include the Superior Seedless, Midnight Beauty, Sable Seedless, and Scarlotta Seedless brand grapes, and the Amber Crest brand peach. Today, Sun World operates one of the world's leading fruit development programs, has over 15,000 acres of farming land, and manages the farming, packing, and marketing operations for all of its U.S.-grown products. The company has five international offices, located in Italy, Australia, Chile, Mexico, and South Africa. The company's licensing department manages an extensive international program for growers and marketers around the world with licensing proprietary products. The sales and marketing department boasts a team of experienced professionals who manage relationships with many of the world's leading supermarket retailers. Sun World has its eye on the future, and is focusing efforts on increasing availability of the Midnight Beauty brand grape, the Scarlotta Seedless brand grape, and the Black Diamond brand plum, in addition to developing new varieties specializing in early and late season. Sun World is privately owned by Black Diamond Capital Management, LLP, an investment company based in Greenwich, Connecticut.

Business Challenges

If you look at the world of commercial farming on the surface, it looks a lot like it always has. It conjures a sentimental image that resonates with most. But on a deeper level, the increasingly globalized nature of commercial farming industry today leaves little room for sentimentality when profits are at stake. That's why producers are increasingly looking to a new kind of harvest—the ability to extract insights from data—as the key to their future success.

Steve Greenwood, Director of Budgets and Reporting for Sun World International, has seen this shift firsthand. Greenwood and his team have a direct impact on what crops go into the ground and what Sun World ultimately brings to market. It's a decision where—in Sun World's case—rational analysis trumps sentimentality. You'd think, for example, that as the first company to develop seedless watermelons, Sun World's planners might hold a special place for them in their heart. But when a closer look at the numbers showed that the company was bringing more and more product to market just as prices were plunging, Sun World abruptly changed course, dramatically cutting acreage and shifting to a new breed of table grape that now produces *twice* as much profit on a quarter of the acreage.

³ IBM case study: Sun World International: Harvesting business insights to maximize profitability. 18 Nov 2010. <http://www-142.ibm.com> | Software | Library.

Benefits Realized

Here are some of the benefits.

The Seeds of Smarter Planning The lesson of this story isn't just that there are no sacred cows in commercial agriculture. Nor does it signal a change in the importance of supply and demand in determining profitability. Instead, it is more a reflection of how—in an industry where market globalization has increased risk and made profitability more elusive—timely and accurate decision support is more important than ever.

As Greenwood explains it, profitability in commercial agriculture is in large measure a function of a provider's ability to come to market with the right product at the right time. But it's not as easy as it sounds. While the rhythms of seasonality may be a basic part of life to the average consumer in the produce aisle, commercial growers see them as a sort of moving landscape from which evolve threats and opportunities. To be avoided, he says, are crops whose harvests come due when the market is crowded with abundant supplies and falling prices. "Our aim is to produce quality products when they're currently not available," says Greenwood. "It's about hitting the market window when nobody else can."

One key dimension of Sun World's targeting strategy is its world-class breeding center, located on a 180-acre experimental farm not far from the company's headquarters. A complement to Sun World's focus on specialty-branded (as opposed to commodity) produce, the center seeks to breed and patent crop varieties with targeted characteristics (such as red seedless grapes that harvest in September, which, as grapes go, is late on the calendar). That's where the second important dimension comes in. Greenwood explains: "Pursuing a proactive market targeting strategy requires accurate, granular, and up-to-date forecasts of what's going on in the market. That's how we find opportunity and catch our competitors flat-footed."

A New Culture Takes Root Greenwood was at Sun World when the pieces of this capability began falling into place. The watershed moment was a change in management and a corresponding shift in the company's competitive strategy. Sun World's executives recognized that successfully competing on a global level required a more information-driven, decision-making culture. It also realized that for such a culture to take root, Sun World needed to fundamentally transform the way it managed key business data.

One holdover of its old way of doing business was a reliance on manually updated spreadsheet data, which, for the purpose of decision making, became stale the moment it was entered. What's more, beyond being inefficient and error-prone, this fragmented approach made it impossible to perform the analytical functions Sun World would need to execute intelligent market planning as well as the optimization of its everyday operations. Sun World put that building block into place when it worked with Applied Analytix Inc., an IBM Business Partner with vast experience transforming data into actionable insights. Applied Analytix implemented Cognos TM1 and redesigned Sun World's processes to take full advantage of its advanced functionality.

Sun World's 16,000 acres of farmland are clustered into four growing areas in the San Joaquin and Coachella Valleys of California, each of which is directed by a farm manager. Greenwood is on a first-name basis with all of them, the result of a close and ongoing working relationship. Once a month, they come to Bakersfield to sit down and go through the numbers, discussing budgets, costs, and productivity. That is, unless it's harvest time, when their 18-hour days make it more practical for Greenwood to make the drive to them.

The aim of these meetings is to take stock, identify trends, and figure out the best way forward. With Cognos TM1 helping Greenwood and the managers to glean insights and improve forecast accuracy and granularity, these sessions have become much more fruitful. Fed by Sun World's ERP system, the analytics solution can provide a granular breakdown of sales, costs, and profitability by product type, variety, region, and individual ranch. Part of what makes a solution such a valuable forward-looking tool is its ability to do "what if" analysis around parameters like water costs, fuel costs, and changes in consumer buying patterns, and to use these insights to optimize its planting mix.

Data-driven Insights Complement Intuition Like most experienced farmers, Sun World's farm managers and their foremen have learned to trust their gut in determining which practices—in areas like irrigation and fertilizing—work best. Greenwood doesn't dispute the value of experience, but he sees the insights derived from Cognos TM1 as adding the level of precision needed to optimize everyday farming practices. Take irrigation as an example. Given the water shortages endemic to the region, high-efficiency drip irrigation methods are gaining in favor as an alternative to traditional surface irrigation. Because Sun World can compare the costs of both at a granular level, it has been able to make better judgments about where to apply drip irrigation, resulting in lower water usage and better nourished produce. In the growing of table grapes, the targeted use of drip irrigation has resulted in a 5 percent reduction in harvesting costs, a 20 percent reduction in fuel usage, and a 50 percent increase in yield over the past five years.

Harvest time produces a series of important decisions that impact the cost and efficiency of the harvest—and thus the bottom line. There was a time when Sun World executives and farm managers didn't see the productivity numbers until the harvest was done, when it was too late to do anything different. Today, farm managers out in the field during the harvest can use their cell phone or PDA to get an up-to-date view of productivity metrics at the level of individual ranches or work crews. "This means that if a manager finds something wrong with a particular ranch or crew, he can find out the root problem and address it proactively to maximize the overall productivity of the harvest—as it's happening, not after it's done," says Greenwood. "In the same way, we can flag superior practices among specific crews and try to promote them where it makes sense."

In addition to the vagaries of nature, Sun World's profitability also depends on its ability to negotiate the best prices with retailers in a fluctuating market. The ongoing consolidation of the grocery business has exacerbated this challenge. To ensure that the sales staff has the most up-to-the-minute price data as they negotiate with their customers around the world, Sun World displays them on the selling floor via a ticker display, drawn from a near-real-time feed from Cognos TM1. "This gives our salespeople the ability to continually understand market conditions," explains Greenwood. "A penny here, a penny there matters when you're shipping 11,000,000 boxes per year."

Now let's turn our attention to how British Arab Commercial Bank (BACB) uses Cognos TM1 to drive the value of scenario analytics in their organization.

British Arab Commercial Bank (BACB)

British Arab Commercial Bank⁴ (BACB) is a London-based wholesale bank that specializes in providing trade and project finance for Arab markets. Building on a successful track

⁴ IBM case study: British Arab Commercial Bank enhances insight across the entire business. 24 May 2011. <http://www-142.ibm.com> | Software | Library.

record in the Arab Mediterranean region, BACB's market coverage has expanded steadily in recent years, and it is also able to handle business throughout the Arabian Gulf. With 150 employees, the company has total assets of more than £3.3 billion, and achieved pre-tax profits of nearly £19 million in 2010.

Business Challenge

To operate effectively in a highly complex and competitive international arena such as trade and project finance, BACB needs rapid access to detailed management information on the financial and operational aspects of its business. The bank is also subject to regulation by the UK's Financial Services Authority (FSA) and other regulators, which require detailed reports on various aspects of its operations. As a result, business analytics has a vital role to play in BACB's success. However, creating an environment in which business analytics could embed itself into users' everyday routine was a major challenge for BACB.

Like most banks, BACB has numerous different business units that deal with specific operational aspects such as core banking, trade finance, derivatives, and so on. Over a number of years, each of these business units had implemented and developed its own separate IT systems, which meant that data was siloed in numerous different formats and repositories.

"Analysts in our finance team had to collect data from all these systems and compile it into complex spreadsheets to calculate even the basic daily, monthly, and annual figures," explains Crispian Denby, Chief Financial Officer at BACB. "There was increasing demand for better management information in other areas too, such as customer profitability analysis, and we knew that a spreadsheet-based process simply wouldn't be a practical option. We needed a real business analytics solution."

Therefore, in 2008, HUK-COBURG's managers decided to look for a future-proof BI system. The aim was to expand and facilitate controlling and management in three main areas. In sales, the objective was improved quality control, with flexible analysis functions to identify regional developments and new business potential, as well as more targeted planning of personnel and the distribution network. In the call center too, the emphasis was on more efficient allocation of labor and development of service quality. Finally, in the claims management area, the aim was to optimize the insurance network of garages in terms of customer satisfaction and quality.

Benefits Realized

Once the Microsoft SQL Server data warehouse had been implemented, the BACB team began creating analytic applications in Cognos TM1 to serve the needs of different groups of business users. The first application was built to handle traditional finance requirements such as daily, monthly, and annual accounting and cost center reporting. The application uses a number of OLAP cubes to provide insight into planned and actual expenditure. Detailed ledger balances are collected daily in their underlying currencies: movements from one day to the next are determined (balance sheet versus P&L), and results are translated into various reporting currencies automatically.

"From the general finance perspective, we have been delighted with Cognos TM1 since the very beginning," says Denby. "The creation and distribution of daily reports is completely automated through TM1 Web, so users can get hold of the latest figures as soon as they log on in the morning. Month-end reporting can be completed within two days of the monthly close, and the year-end is an absolute breeze now."

Although the bank's annual report has expanded from 42 pages in 2000 under UK GAAP to 91 pages under the more demanding requirements of IFRS, it can still be completed within a month of the bank's year-end.

Denby adds: "It's a very flexible solution. Changes to reporting requirements and the evolution of the business can normally be easily accommodated within the existing framework. As a result, the Finance department has been able to accommodate the increasing complexity of the bank's business without needing to add to headcount."

Faster, Richer Insight Denby adds: "The solution provides a near-real-time view of the bank's finances, which means that senior managers can track developments in a volatile market on a day-by-day basis. As a result, we can respond more quickly to changing situations: we can spot opportunities as they arise, and react to emerging issues before they cause problems.

"Besides the increased timeliness of the information, Cognos TM1 gives us much richer insight into our financial position. Previously, analysts spent so long collecting and validating the data, there wasn't much time for deep analysis. Now, because the collection is mostly automated, we can gather more data and perform more sophisticated analyses in the same amount of time.

Customer Profitability The bank's second project was an application to analyze customer profitability. High-quality online inquiry reports are available to customer-facing teams and senior managers, listing the income and costs related to each customer, as well as their current activity in terms of deals and transactions, all up to date to the most recent end-of-day.

"Customer profitability analysis was one of the key requirements for the solution, and it has been a major success," comments Denby. "The Cognos TM1 application provides a huge and rich source of data for our customer-facing teams and senior managers, helping them understand how to manage individual accounts more effectively to maximize both profitability and customer loyalty."

Reusing Existing Assets Once these first two applications had been developed, the team began to consider the next steps. "We had learned a lot about Cognos TM1 development, and we knew we could reuse the same structures and techniques to create other analytic applications relatively easily," says Denby. "Our IT/Finance team quickly built an application to report on credit risk for each customer compared to acceptable limits. This flags high-risk customers and prompts us to take action to minimize our exposure as quickly as possible. We also built in e-mail alerts that are generated automatically by the system, which enable users to identify problems quickly rather than having to review detailed underlying reports."

Predicting Risk and Managing Liquidity In response to new FSA guidelines on liquidity management, the BACB team has also created a Cognos TM1 application that uses Monte Carlo simulation to create forward projections of the bank's balance sheet up to 90 days in advance. This enables BACB to assess its current assets, liabilities, and commitments against what if scenarios, and make crucial decisions to maintain the required level of liquidity at all times.

"The Monte Carlo analysis gives us a way to gauge probable best and worst case scenarios, and helps us decide whether we need to mitigate risk by buying more debt securities or raising more deposits," explains Denby. "Cognos TM1 performs these

complex calculations automatically, giving us the information we need to make good decisions, as well as facilitating compliance with FSA guidelines.”

Improved Information Governance Finally, the introduction of the Cognos TM1 solution has led to cultural change within BACB, dramatically improving the standard of information and process-related governance. Instead of individuals managing a mass of interdependent spreadsheets, which often led to formula errors and inconsistent data, the bank has now instituted a more disciplined governance framework. Changes to the Cognos solution are implemented in a development environment and then rigorously tested before they are released into production. The incidence of reporting errors has steadily reduced over time, and system availability has become much more reliable as a result of the implementation of these types of controls.

“Users like it because they can still use a familiar Microsoft Excel front-end to interact with the data, but behind the scenes, the analysis is much more structured and reliable,” says Denby. “Instead of each user relying on their own spreadsheets, there is a single, reliable source of business intelligence that is accessible to all.”

Adapting to a Changing Business Environment The bank’s operations have recently been impacted by events in the Arab markets in which it specializes. Access to flexible reporting and high-quality information has been key to enabling the bank to adapt to a rapidly evolving business and regulatory environment.

Denby concludes: “With Cognos TM1, we have more confidence in our management information, which leads to faster, more responsive decision-making and ultimately helps us maintain our leading position in the Arab trade and project finance market.”

Extending Your ERP Solution

Now let’s turn our attention to how Cognos TM1 helps ERP systems meet the heightened requirements driven by increased business volatility and velocity of change. ERP systems have traditionally done an excellent job of capturing transactional information about a host of enterprise information that spans a host of departmental requirements. Unfortunately, as noted in Chapter 1, ERP systems face a number of challenges with meeting the business requirements of planning and analysis that Cognos TM1 can help with. Let’s outline these challenges in order of importance and how Cognos TM1 can help.

- **Reduction of silos of data** Cognos TM1 provides a centralized data store that is specifically designed to meet high-performance planning and analysis business requirements. This provides a single set of data definitions as noted in Figure 2-4.
- **Support for ad hoc analysis** As mentioned earlier, Cognos TM1 is specifically designed for data exploration and provides a “single version of the truth” that reduces errors data errors and lost productivity.
- **Reduced reliance on static reports** Cognos TM1 reduces reliance on static reports by creating a highly interactive environment for business users to explore current organizational performance and create new plans and scenarios on demand. This reduces the requirement for static reports and creates a self-service model for information that is owned by the business user but managed to IT standards for governance.

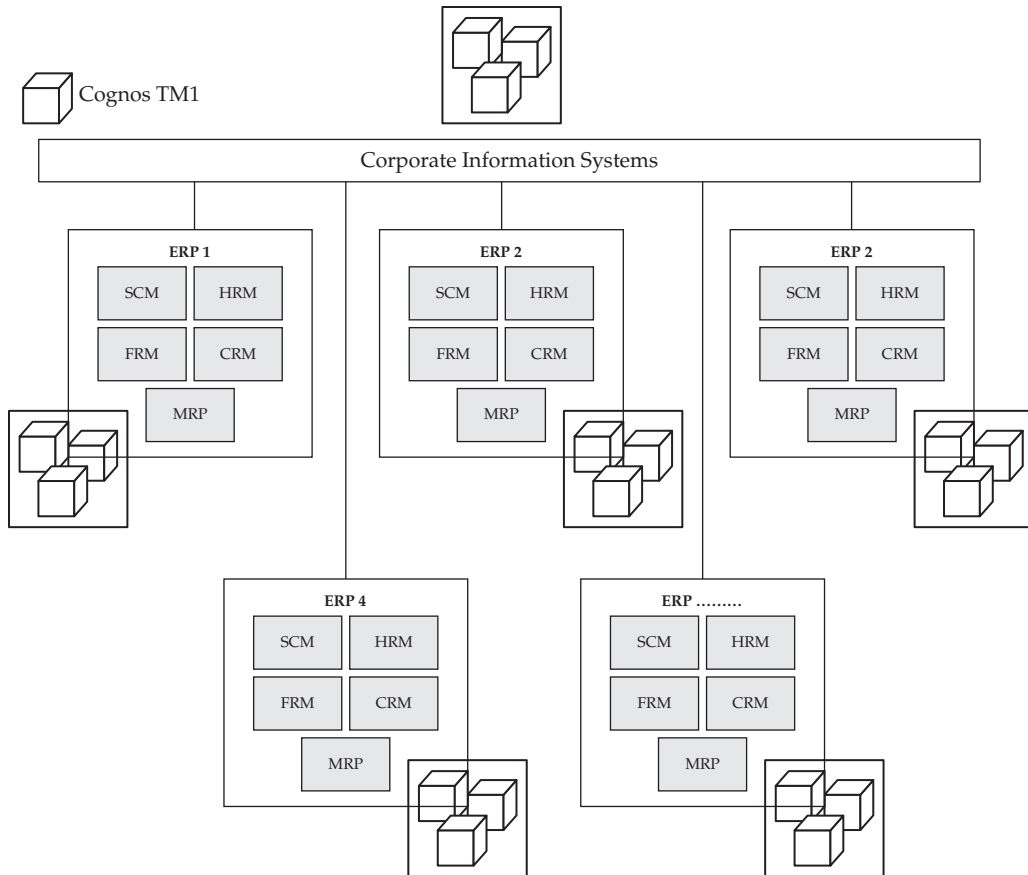


FIGURE 2-4 Extending an ERP system with Cognos TM1

- **Lower cost of ownership** Cognos TM1 reduces the cost of strategic investments by creating a centralized data store that transforms data to information for a broad set of planning, analysis, reporting, scorecard, and dashboard requirements.

Now let's take a look at how Mitsubishi (SAP) and DHL (Oracle) have used Cognos TM1 to extend their ERP investment.

Mitsubishi

Mitsubishi Corporation's⁵ European subsidiaries have found the recipe for success for profitable trading: This global trading company allocates its regional sales units as much responsibility as possible. At the lowest level, profit centers autonomously distribute goods

⁵ IBM case study: Streamlined data and clear view of profits. 04 Mar 2011. <http://www-142.ibm.com> | Software | Library.

from product segments such as chemicals, machinery, and textiles. On the basis of specified targets, they draw up their own budget plans, which are then consolidated and checked several times a year in the European holding company.

Business Challenges

Mitsubishi faced a number of common business challenges in its global organizations.

Bottom-up Planning Mitsubishi Corporation's decentralized organizational structure is based on a proven concept: Profit centers distributed throughout Europe plan their business independently within a specified scope. This allows the sales units to operate flexibly, target offerings to regional customers, and respond rapidly to customer requests. The downside is an elaborate planning process: The budget plans created in the profit centers—for example, for chemically generated food additives—need to be forwarded to the responsible areas. The plans are then consolidated, checked and, if applicable, aligned with the group's overall strategy. This takes place in the form of targets that are set by senior management for the individual product segments and profit centers.

Error-prone, Slow, and Elaborate Due to its high complexity, the previous budget planning process, based on Excel spreadsheets, had become unviable, as Günther Bergdolt, Technical Manager at the subsidiary in Düsseldorf, explains: "Users in the profit centers created individual Excel spreadsheets containing their budget figures. However, there was no standardized format for these spreadsheets, which sometimes had to be consolidated and corrected manually—across multiple levels." This result was a highly labor-intensive and time-consuming process. Formatting problems also made the system prone to errors.

What's more, there was no quick way for departmental and other managers to obtain an overview of planning and business development and define strategic goals. Mitsubishi Corporation's European subsidiaries therefore needed a system that was capable of automating the planning process across the entire company. The main requirements were outlined in specifications from the subsidiary in London. "We needed a standardized system that was capable of centralizing data entry and capture and which could be accessed by all users in all European subsidiaries," explains Bergdolt. One key requirement was a workflow capable of controlling and accelerating the planning process across all departments. At the same time, the company was looking for a solution that would allow department managers to run individual queries such as target-performance comparisons—which called for the ability to rapidly process large volumes of budget and profit and loss figures from different sources.

Benefits Realized

With the implementation of Cognos TM1, Mitsubishi Corporation realized a number of business benefits.

Networked Across Countries In September 2009, a project team led by Bergdolt was assigned the task of identifying the solution. An in-depth market assessment clearly showed that Cognos TM1 was the best fit for the requirements. The solution convinced the team not only on the basis of its workflow management functionalities, but also thanks to its integrated in-memory OLAP server, which allows data to be processed rapidly in the main memory. Another argument in favor of Cognos TM1 was the fact that the solution

could be seamlessly integrated in the existing infrastructure—more specifically, the strategic, company-wide SAP ERP system and the Cognos 8 BI solution.

Over subsequent project steps, in November 2009 the precise requirements for the workflow were defined and a cross-country organizational structure, departments, and permissions were mapped in the Cognos TM1 multidimensional database. Following on from several workshops during which IBM consultants familiarized Mitsubishi employees with the functionalities of the new solution, the system went live in February 2010.

Automated, Fast, and Standardized The workflow integrated in Cognos TM1 provides Mitsubishi planners with the technological foundations to map each individual level of the company's hierarchy and automate the planning process over all countries. Tasks and permissions are assigned to users throughout Europe. "At the lowest level, users enter budget figures for their respective region; at the next levels, plans are grouped according to permissions and then checked," explains Bergdolt. Access takes place online—all European offices are networked via a standard web interface.

Cognos TM1 is also integrated with Excel, allowing users to work with a familiar interface and standardized formats. "The entire planning process is now far faster, since all users are working with a central system and a clearly defined workflow. The fact that plans are now standardized and consolidated automatically has also helped to reduce the error rate," continues Bergdolt.

Cognos TM1 offers a convincing performance in the consolidation of budget plans as well as for individual queries. Budget figures and SAP data are loaded in the system and processed in main memory, which means that no access to the hard disk is required. "Cognos TM1 easily processes even large volumes of data in a short time. Performance is maintained at a high level, as is the access speed for individual analyses," states Bergdolt.

Target-performance comparisons can be easily carried out during operation. For example, a manager in the European subsidiary can see at a glance how much turnover was generated by chemicals in Germany last month. If turnover is above target, the figure for this product segment can be revised upwards. "This allows us to plan our business far more precisely, define strategic goals faster, and make more efficient use of resources," explains Bergdolt.

A Comprehensive Overview The expanded reporting system also ensures the smooth distribution of information over all levels of the hierarchy for planning purposes. Cognos TM1 is the ideal complement for Cognos 8 BI, since budget figures from the TM1 database can be automatically exported and analyzed in reports. Cognos 8 BI also offers Bergdolt and his team the possibility of preconfiguring reports based on the requirements of different user groups. In addition to reducing the workload of the IT department, this benefits users by allowing them to query budget reports independently via web access before submitting them to their supervisor for checking.

For an additional overview, monthly reports keep department managers up to date depending on their permissions and area of responsibility. To support this feature, the latest performance figures are transferred from the SAP system to Cognos 8 BI. This provides a more precise overview of the development of individual product segments and regions.

Senior managers generally receive completed analyses only, in the form of summaries, graphics, and diagrams. "A senior manager is mainly interested in trends throughout Europe: How are our product segments performing in Europe? In which countries do we need to improve? The advanced visualization options offered by Cognos 8 are an added benefit.

Information can be displayed precisely in any required format,” explains Bergdolt. This provides more reliable foundations for strategic decision making since managers have an overview of business developments at all times—from all of Europe to the lowest sales level.

Data Continues to Flow The solution went live in February 2010, and around 70 users throughout Europe are now using the new system. “User satisfaction is apparent at many levels since the system has standardized and streamlined internal processes,” explains Bergdolt. “As well as accelerating the planning process, we have also made significant improvements in reporting on a pan-European basis.”

DHL Global

DHL Global Forwarding,⁶ part of DHL Worldwide, remains the global market leader in both air and ocean freight. The company continues to provide a range of transportation and logistics services, including its strengthened U.S. Domestic Heavy Weight service, to meet customers’ current and future logistic needs.

DHL is the global market leader of the international express and logistics industry, specializing in providing innovative and customized solutions from a single source. The company offers expertise in express, air, and ocean freight, overland transport, contract logistics solutions, and international mail services, combined with worldwide coverage and an in-depth understanding of local markets. DHL’s international network links more than 220 countries and territories worldwide. Some 300,000 employees worldwide are dedicated to providing fast and reliable services that exceed customers’ expectations. Founded in San Francisco in 1969, DHL is a Deutsche Post DHL brand, which is the world’s leading provider of logistics services. The group generated revenues of more than 51 billion Euros (more than \$72 billion) in 2010.

Business Challenges

DHL Global Forwarding needed to access its data in a quicker and more structured manner so that finance and operational managers could make better-informed budgetary decisions and do forecasting. Since it does business in an industry in which data is always changing, and running the most efficient operations depends on the most updated data, DHL must be agile. The need for reliable, accurate up-to-the-minute data is constant, and without it, finance directors are operating at a disadvantage.

“The biggest change from eight years ago is just how much emphasis we put into accessing information faster and faster,” says Anand Saxena, Financial Reporting (FIRE) at DHL Global Forwarding. “The same reports that would come out on the tenth working day of the month now need to be available by the third or fourth working day.”

A paramount concern for DHL was being able to access reliable data despite change. For example, over the past eight years, DHL has acquired five significantly sized companies, which resulted in major changes in the accounting system, among other areas. Despite that, it still has historical data in its system, and through all that change, some areas have been altered considerably, including accounting codes changing from 5 to 38 digits.

“We have retained all of our information and all its gory detail,” Saxena adds. “So, if anybody still wants to know how much we spent on, say, warehouse employee salaries in Milwaukee, in Air Export in January 2002, they can go, in and dig right in to get it.”

⁶ IBM case study: DHL Global Forwarding stays on time with Cognos TM1 system. 25 Aug 2009. <http://www-142.ibm.com | Software | Library>.

Another priority was security. Like thousands of other companies, DHL needs to pass quarterly security audits. As part of the audit, all the security facets of the applications at the DHL IT center are audited to make sure all pertinent regulations are followed. This entails a lengthy questionnaire disclosing who has access to the system, and how access is determined. Because Cognos TM1 is self-contained, DHL can implement security with the solution even at the cell level, which enables concurrent use without the threat of data getting overwritten by multiple users in the same application. This makes it very easy to manage access, and there is data integrity at all times. These features allow DHL's financial organization to focus on process improvements as much as possible, and as a result, its financial analytics have become more efficient.

Business Value

DHL evaluated numerous financial analytics solutions from several competing vendors before ultimately selecting Cognos TM1. The overall functionality, including the system's ability to provide highly intuitive analysis and reporting, and its comprehensive security and audit trails, was significantly better than any of the other products evaluated.

From an IT environment perspective, DHL operates on Microsoft Windows, and uses Oracle and IBM AS/400 for its accounting and business operations. DHL went live with the current version of Cognos TM1 in 2006, after it had completed its fifth acquisition. It took less than six weeks to provide a detailed and consolidated financial report of the acquisition—including accurate reporting of the key performance indicators (KPIs)—after data had been incorporated from the acquired company. According to Saxena, DHL has had such wide success and strong results that it will soon upgrade to the newest version of Cognos TM1.

While there are many new features and functionalities within each upgrade, DHL made special use of the TurboIntegrator function, which improved stability in importing data from files. The overarching goal, which the company continues to meet or exceed, is to provide decision makers with the most reliable, up-to-date budget information possible.

Benefits Realized

Approximately 55 licensed users across North America access Cognos TM1 practically every day for forecasting and budgeting data from the entire global organization. Everything from quarterly forecasts to annual budgets is being created within the Cognos TM1 environment. All users have their own templates that they can update directly from Cognos TM1 at their convenience, and the sales organization also uses data generated from reports. Nontechnical users are able to use the easy, intuitive solution with no snarls. The company's data from its accounting system in Prague is updated on an hourly basis so that finance can have a consolidated view of the company's performance. Because of the speed of Cognos TM1, 100,000 updated records are consolidated and available for view from the Cognos TM1 server in Arizona in as little as 90 seconds. DHL uses monthly reporting of the figures at all levels, down to the smallest reporting unit, which is considered a station. The organization can also use this data for measuring KPIs.

"Cognos TM1 fills a very particular role in the company and does it really well," Saxena adds. According to Saxena, the solution has also helped DHL avoid costly travel expenses that it used to incur when a dozen department heads met in one city for day-long budget sessions. In doing its 2009 fiscal year budget, DHL was able to accomplish the same goals by conference calls instead, because every stakeholder had access to the same data at the same time. What's more, as the slowing economy is forcing budget revisions, DHL is making

these changes on the fly, and with great ease. The more streamlined approach to budgeting has enabled DHL to react faster to challenging business conditions.

“Cognos TM1 is flexible enough that it’s very friendly in accepting data,” Saxena says. “It’s easy to change and it’s easy to adapt it to changing conditions. You can change models 20 times if you need to, and do it rapidly.”

DHL’s use of Cognos TM1 is paving the way for users to have better experiences. Rather than running queries in the IBM AS/400 system, which has a DOS interface, users can look at the same data easily in Cognos TM1 and prepare their templates ahead of time, then just update them with the new numbers when needed. And as for administrative requirements, Cognos TM1 calls for almost no upkeep. Saxena reports that he spends roughly four hours per year on technical upkeep and administration, or approximately one hour each quarter. That very limited amount of maintenance enables Saxena and others to focus more on strategic analysis, reporting, and budgeting functions that can enhance the bottom line.

Saxena notes that every time DHL has made one of their five acquisitions, the company has decided to continue using the intuitive Cognos TM1 solution because of its superior analytical capabilities and ease of use, when compared with what other organizations were using prior to the acquisition. In one case, he notes, several people were doing tasks now handled by one person with Cognos TM1. “Cognos TM1 is a very versatile application—it’s easy to test and it’s easy to change and switch things around,” Saxena adds. “It just makes business easier.”

Extending Your Data Warehouse

As mentioned in Chapter 1, data warehouses are under increased demands to meet the current business requirements. These range from the diversity of corporate systems through acquisitions and/or mergers, increased collection of internal and external data on customers and employees, and increased demand to access and interact with this information in a way that business users can consume to drive analysis and planning processes with little or zero latency. Cognos TM1 not only meets Codd’s 12/18 rules of OLAP but exceeds these requirements, as noted earlier in this chapter. Cognos TM1 has a long history in providing purpose-built data marts to meet the specific requirements of departments. These data marts, shown in Figure 2-5, allow businesses to organize data in a format that allows business users the ability to perform ad hoc queries, scenario analysis, and create new information through planning and forecasting. Cognos TM1 provides an extension of your data warehouse that is governed by data warehouse data and metadata definitions.

Now let’s take a look at how Impregilo and Giant Tiger have extended their data warehouse strategy with Cognos TM1 to meet their business requirements for planning and analyses.

Impregilo

Listed on the Italian Stock Exchange, Impregilo⁷ is a leading general contractor and one of the world’s top-ranking construction groups, with a presence in over 29 countries. The Impregilo Group is an international specialist in major infrastructure projects and civil buildings of architectural prestige, such as the extension of the Panama Canal, the Thessaloniki subway, the Las Vegas tunnel, and hydroelectric plants in South Africa and Chile. Impregilo boasts

⁷ IBM case study: Impregilo builds a powerful group-wide reporting solution: Gaining faster, more accurate budgets and forecasts with Cognos TM1. 01 Dec 2010. <http://www-142.ibm.com> | Software | Library.

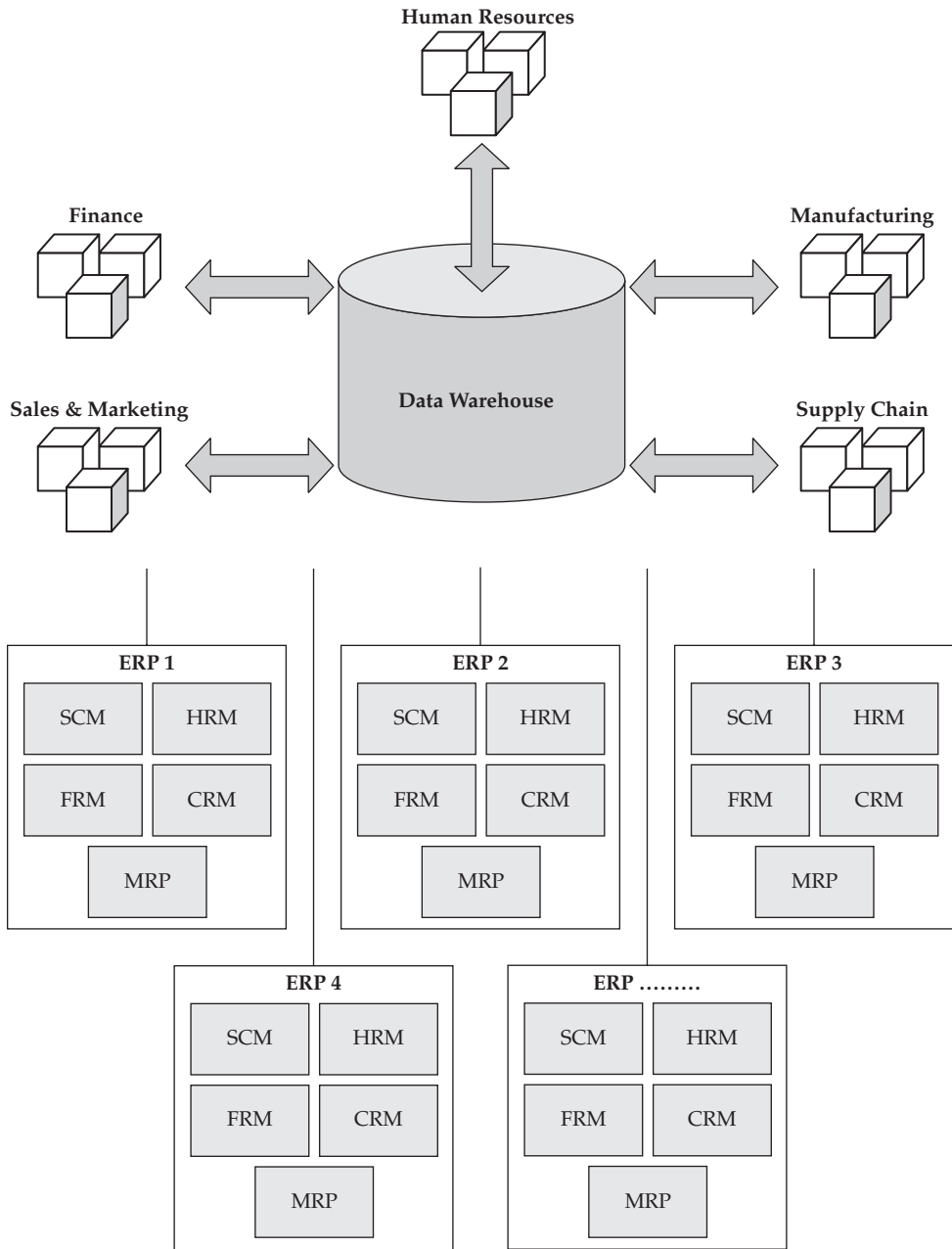


FIGURE 2-5 Cognos TM1 data marts

annual revenues of over 1 billion with net income at 52.6 million in the first half of 2010. A solid 75 percent of earnings are made up from the group's foreign sales.

Business Challenge

The Impregilo Group consists of around 120 different companies/project teams, each of which needs to manage large-scale, high-profile construction projects within set budgets and schedules. The challenge for Impregilo was to create an infrastructure that could collect a variety of information from this disparate set of companies, and enable users at corporate headquarters and within the subsidiaries to create detailed reports and perform budgeting and forecasting tasks. Furthermore, Impregilo wanted an easy-to-use system that could be quickly rolled out across the group.

Giovanni Manzini, IT Project Manager Accounting Consolidation and Reporting, comments: "With so many group companies and so many projects, we have to manage an enormous amount of data. We needed to find a way to collect all this information together in order to create, in as simple a manner as possible, a single repository for analysis and reporting."

Benefits Realized

Impregilo wanted to find a solution that it could roll out fast. The company evaluated a number of planning and reporting solutions before choosing Cognos TM1. Within a month the company had worked with Stratos, an IBM Business Partner, to complete the first phase of the implementation.

Manzini notes, "We had already spent five months creating a single central data repository using SAP NetWeaver Business Warehouse, which collects and structures all the financial information from our ERP system and other systems. Then we integrated this data warehouse with the Cognos TM1 solution in order to provide rapid access to powerful analytics. This took just one month to implement. The Cognos solution provides easy-to-use planning, budgeting, forecasting, reporting, and performance management.

"Our first goal was to make the planning and reporting department completely independent of the IT department—so that they could create their own reports and analyses without needing help from IT staff. We accomplished this in record time, and the department is now able to make its own budget plans. The need for technical skill used to be a barrier that prevented people from accessing the information they needed; but with Cognos TM1, information can flow throughout the company much more freely."

Eliminating Manual Workload Manzini adds: "For our second objective, the Director of the Budget Planning and Control department was very clear. He wanted to make changes in his department in order to avoid wasting time on the production of numbers. He wanted his team to concentrate on analysis, not data-collection.

"Now, the combination of Cognos TM1 and SAP NetWeaver BW provides a single central source of accurate data, so users can spend less time collecting and validating data, and have more time to focus on analyzing risks and opportunities for the Group. There was always a need to produce this information, but Cognos TM1 makes it much easier and much faster, which is a clear benefit for both the business as a whole and the individual users."

A Comprehensive Solution Cognos TM1 has provided Impregilo with a comprehensive business analytics solution, capable of delivering everything from financial and operational modeling to performance management. Most importantly, Cognos TM1 is able to bring together data from the group's SAP system and other sources to provide a single version of the truth.

In addition to viewing information, Cognos TM1 also enables properly authorized users to add and edit data within the data warehouse. As an example, the budgeting and forecasting departments can use Cognos TM1 to create multiple versions of each budget to model different financial scenarios. When the analysis is complete, the final version of the budget can then be moved back manually into the SAP environment and used across the whole business.

Says Manzini, "We chose Cognos TM1 because it is very powerful and flexible, and the interface is simply excellent. The great thing is that you can use it to manipulate and analyze data in all sorts of different ways without having to develop any additional processes in the ERP system itself."

He concludes: "We currently have 20 users using the Cognos TM1 solution at headquarters, and we have begun the roll-out worldwide. The new users are happy with the solution because it makes it much easier for them to access the business information they need to make fast, accurate business decisions, without having to wait for help from technical specialists in the IT department. Our financial analysts, business managers, and executives are all able to use the solution to do their own real-time analytics, and we estimate that we will have 100 users by the end of the year."

Giant Tiger

Giant Tiger is a Canadian retail chain with more than 200 stores coast to coast. The company employs more than 7,000 people and has built an extensive network of franchise stores. Aiming to maintain a local presence even in smaller communities, Giant Tiger competes with both large out-of-town chains like Wal-Mart and Loblaw's, and smaller local stores.⁸

Business Challenge

Giant Tiger's planning processes were largely manual: data was extracted from the corporate financial system into a Microsoft Access database, and then processed into more than 200 separate spreadsheets, one for each of the company's stores. Collecting and validating the data took two or three weeks each quarter, and creating the spreadsheets and distributing them to the stores took an additional two days. "The process was slow and cumbersome even when everything ran smoothly," explains Foster. "But if something needed to be changed at a late stage, we had to manually update every one of the 200 files, which was really painful! More important, though, was the effect on the business. The lead time on the budgeting process made it difficult to react in an agile way to changing market situations: by the time the data was available, it was already several weeks old. Moreover, since each store was managing its own budget during the quarter and there was no easy way to join up the data, it was difficult to get a corporate or regional overview of operations."

⁸ IBM case study: Giant Tiger bridges the gap in financial planning. 11 June 2011. http://www-01.ibm.com/software/success/cssdb.nsf/CS/STRD-8JNMDB?OpenDocument&Site=default&cty=en_us

Benefits Realized

The Giant Tiger team began looking for a solution to these problems, and quickly selected Cognos TM1. “Cognos TM1 really ticked all the boxes for us,” explains Foster. “It promised to be relatively quick and easy to implement.” Working with IBM, the team implemented a planning and analysis solution that integrated the company’s Teradata warehouse with Cognos TM1. This provided a closed-loop planning process that reduced planning cycles and increased analytics capability, as well as maximizing the value of Giant Tiger’s Teradata investment. “We still have to import some data from other systems, but in the near future, everything will be in Teradata,” says Foster. “The integration between the Cognos TM1 and Teradata is very stable and reliable—the close strategic relationship between IBM and Teradata is a big advantage here.”

New Insight for Different User Groups The new solution provides different groups of users with different levels of access, helping them find the information they need quickly and easily. Buyers can drill up and down through product hierarchies to understand sales trends in different categories and help them plan for the next six to nine months. Regional Support Managers (RSMs) can use store hierarchies to compare performance within and between regions. And individual store managers can submit actual data into the Cognos TM1 web interface on a daily basis, helping to track sales and costs against projections in real time. “The ability to do regional analysis easily is a major step forward,” comments Foster. “Previously, there wasn’t an easy way to group financial information for stores in different regions, so the RSMs had to look at each store’s targets and results individually. Now, it’s easy for them to compare stores and regions using hard numbers, which helps them to support their stores more effectively. Now, because the collection is mostly automated, we can gather more data and perform more sophisticated analyses in the same amount of time.”

Faster Process, Greater Agility With Cognos TM1, the quarterly budgeting process is largely automated and can be completed in three days—an 85 percent improvement on the previous lead time of three weeks. The solution also reduces workload for more than 220 users, who can each save approximately one hour per week by submitting data directly into the system via the web instead of using spreadsheets. “The time we save is put to good use: the planning team at corporate headquarters can now concentrate on actually analyzing the data instead of just putting the reports together,” explains Foster. “Since the process can be completed so much faster, we are also now considering doing revisions on a monthly basis, which simply wouldn’t have been possible with our old system. Above all, the new solution helps us give users access to budgeting and forecasting data in a more timely way, which helps us react to changing market conditions in a more agile way.” As an example, Foster cites the effect of economic and political forces on Giant Tiger’s planning processes: “The current political instability in the Middle East leads to rising oil prices, which leads to increased freight costs, which raises the price of cotton, which affects the pricing strategy for our clothing lines and therefore impacts our budgets and forecasts. Equally, recent layoffs in the automotive industry, which is a major part of Ontario’s economy, mean that the average consumer in that region may have less money to spend—which again will have an effect on our sales performance. Previously, although we could identify these kinds of factors, our planning processes were too slow to react to them effectively. With Cognos TM1, we can be much more responsive, and ensure that our top-down corporate planning aligns better with what the stores can actually achieve.”

Summary

In summary, the goal of this chapter was to continue our conversation about the increased demands on planning and analysis processes in global organizations and to share how Cognos TM1 has met and continues to meet the broadest planning and analysis requirements in the industry. Over 4,000 global companies spanning all industries have come to depend on Cognos TM1 to help drive decisions across their organizations. This chapter reviewed today's highly volatile business environment and gave examples of how leading organizations have met these challenges to drive increased performance with Cognos TM1. These demands ranged from increased forecasting and budget cycles, rise of scenario analytics, heightened ERP requirements, and rising demands on data warehouses. Cognos TM1 continues to play a critical role in an organization's ability to make informed decisions.

Now let's turn our attention in Chapter 3 to the incredible journey Cognos TM1 has made from a pioneer as a DOS-based in-memory analytics product to a 64-bit enterprise-scale OLAP product that over 4,000 companies rely on for daily decision making.