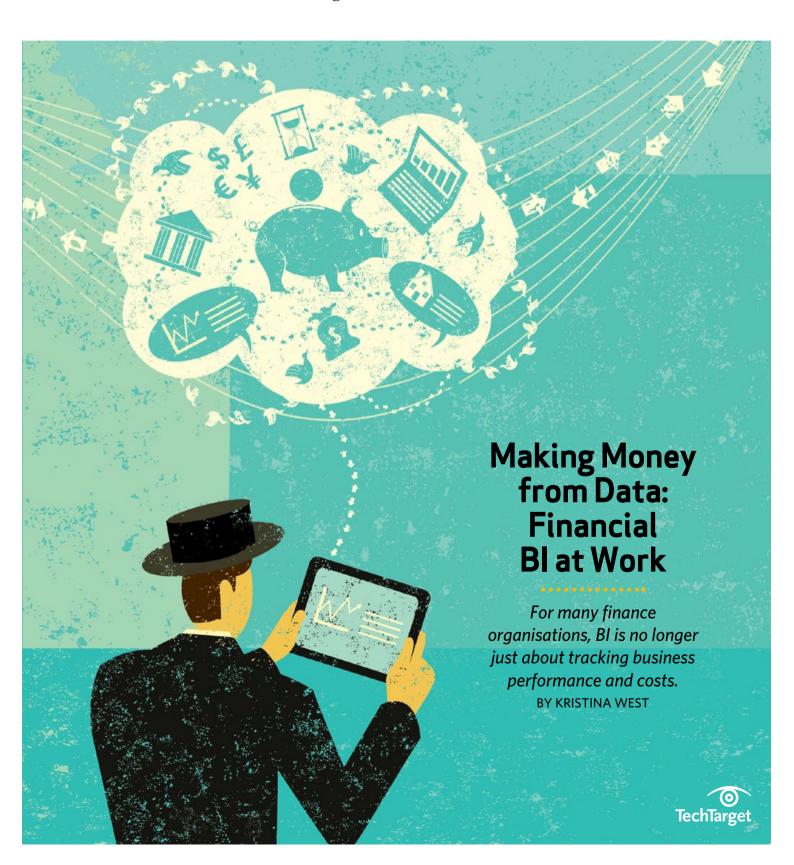
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Casting the Runes with Business Intelligence

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MDM TOOLS STEALTHILY MOVE FORWARD IN SHADE OF **BIG DATA**

BUSINESS INTELLIGENCE IS ripe for defamiliarisation as a term. For IT professionals, the temptation is to understand it to mean guery and reporting tools from the BI megavendors. But for one of the finance professionals quoted in this issue of IT in Europe: Data Management & BI Edition, "business intelligence means trying to make money out of data."

The shift from reporting what has happened, usually in the form of numbers, to predicting what will happen is often invoked as the necessary next step for BI programmes. Kristina West's lead story explores how European finance professionals, in financial services and other sectors, are using BI and analytics technologies to analyse trends and cut costs, as you would expect—but also to open up new lines of business and improve corporate marketing campaigns.

Lindsay Clark reports on how predictive analytics software is being used in the oil and gas industry to better manage asset maintenance on capital equipment. Again, the stress is on conditioning the future so equipment can be replaced based on its actual condition and not according to a manufacturer's timetable. That potentially saves on replacement costs and obviates unplanned downtime.

Looking beyond BI, Jim Mortleman offers an account of emerging technologies in the master data management arena. But still more innovation may be needed to keep MDM from a future of playing second fiddle to more au courant concepts, such as "big data."

Brian McKenna UK Bureau Chief, SearchDataManagement.co.UK



Making Money from Data: Financial Business Intelligence at Work

BI and analytics applications within the financial industry, and finance departments more generally, are looking beyond performance monitoring and cost containment to focus on increasing revenue and expanding business. BY KRISTINA WEST

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s understood by the finance function in different corporate organisations, business intelligence (BI) is likely to yield a variety of precise definitions. However, finance professionals who are using or considering procurements of BI software, whether in financial services companies or other sectors, usually have the common goals of increasing revenue and decreasing costs.

BI's essential métier, in the field of commerce more generally but particularly so in financial business intelligence applications, is to use a company's data to gain a deeper knowledge of not only how the business is performing but why, and then to use that information to make advantageous business decisions.

"To me, business intelligence means trying to make money out of data," said Philippe Neyt, commercial director at Belgium-based insurer Corona Direct. "The company gathers and explores lots of data, and this intelligence should help us to make more money."

As part of its BI programme, for example, Corona has used data mining software to analyse two of its major direct mail campaigns, with the findings helping the insurer increase customer response rates to the mailings. "It is an expensive advertising medium, and we need to target well for better results," Neyt said, adding that Corona is now working to expand the direct mail analytics effort (see "Corona Direct Mines Data to Better Target Customers," page 4).

There are other areas of commonality between companies on

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financial BI applications: Beyond operational performance and cost control, typical uses include meeting regulatory reporting requirements; improving customer acquisition, retention and service; and aiding risk management processes. And increasingly, organisations are looking to use BI and analytics to help them predict future behaviour and results.

London-based law firm Reynolds Porter Chamberlain (RPC) initially deployed QlikTech's BI software for use in tracking key performance indicators in its business operations. That continues, but the law firm also is now using the BI tools to do forward-looking trends analysis for corporate clients as well as internal business managers.

"We work heavily in the insurance sector, so clients want information on the predicted outcome of claims, for example," said Julie Berry, RPC's director of infrastructure and IT. "We have an approach of 'headlights on, not taillights on'—we use historical data, but to prepare us for the future."

Corona Direct Mines Data to Better Target Customers

CRAFTING THE RIGHT marketing message for direct mail promotions, to ensure a high response rate from a broad group of customers, can be a challenge, according to Philippe Neyt, commercial director at insurer Corona Direct in Belgium. "We can get a 100% response from targeting one person well, but we need a balance in between," he said.

Through its use of data mining software from IBM, Corona has been able to find a better balance, Neyt added. Over the past two years, he said, BI and analytics applications on two major direct mail campaigns have helped the company to increase the response from customers by 32%.

"We started with one campaign and one product and expanded to another," Neyt said. Now Corona plans to start using the software to help identify customers it's at risk of losing and then tailor marketing campaigns aimed at keeping them in the fold. "We do some campaigns to keep our existing customers, but these go to all of our customers, so 80% of it is useless if it goes to clients who have no intention of leaving," he said. Company officials hope to be live with the new application by the end of the year, or perhaps even by the summer.

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Paul Groenland, a director in marketing intelligence at Rabobank Nederland, the umbrella support organisation for the Rabobank Group, said that the Dutch financial services company uses BI software in several environments, "from local branches through to customer management systems, depending on the information we are delivering and what is needed for local customers and global account managers."

Groenland said the benefits of the BI programme centre on reducing business costs and enabling faster decision making, as the bank can deliver the right information to managers on a local basis. Like many other companies, Rabobank also uses BI data as an educational tool for its board of directors on the state of business operations. The information "can give them a different view on what is happening," he said.

FINANCIAL BI ENABLES GOLDEN VIEW OF DATA

One of the principal differences between BI and more traditional data collection models is that of consistency. BI enables a closer approach to the fabled "golden copy" of data, aimed at ensuring that anyone looking to do data analysis within an organisation is looking at the same information. That in turn should improve the ability of business executives and other end users to make sound judgments and

decisions.

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Leadership of Bl programmes often sits within the business function instead of the IT department, with heads of business departments such as marketing and customer service holding overall responsibility for the development and use of BI systems.

"People are now trying to run their business more smartly," said Martijn Wiertz, a Netherlands-based marketing manager for predictive analytics at IBM. "They are putting intelligence in rather than just automating. This is a change in business perspective rather than just operational perspective."

In many organizations, there is a direct connection between the business and BI software: Leadership of BI programmes often sits within the business function instead of the IT department, with heads of business departments such as marketing and customer service holding overall responsibility for the development and use of BI systems. In other cases, BI teams are jointly led by business and IT representatives.

Of course, further development of financial BI capabilities must take place

in the context of an organization's size and available resources as well as current economic conditions. As a result, some companies, such as Corona Direct, might have a BI wish list rather than a to-do list. "We could use it in other areas, but we are a small company so we need to focus on the priorities," Neyt said.

Those potential "other areas" are enticing for the insurer, though. "We could look at a customer's propensity to buy—on client calls, the call centre operator should have an indicator of the probability of the client listening to a pitch for another product," he said. "We could also [do predictive analytics on] claims, as we want more customers but less claims." Another possible use cited by Neyt is analysing the company's acceptance rules for policies to "judge in which circumstances customers in different areas should pay more."

There is also room for further development in the software itself, according to some BI users. RPC's Berry, for example, would like to see an out-of-the-box BI system for law firms like hers that fall out-

The very ambiguity that underpins the definition of business intelligence across different organisations is perhaps also its greatest strength.

side of the top 10 in the market, with standard Excel spreadsheets and the ability to create workable end-user dashboards in a much shorter timeframe than is possible now.

But even without that, Berry sees BI use expanding within the legal industry. "Law has not been a great sector in the past for data analysis, but we are getting there now," she

Ironically, the very ambiguity that underpins the definition of business intelligence across different organisations is perhaps also its greatest strength: the ability to be flexible in helping finance managers and other end users to enhance business operations through the use of internal as well as external data. ■

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Oil, Gas Companies Cut Downtime with Predictive **Analytics Software**

Predictive modeling is increasingly used in the oil and gas industry to aid in maintaining capital equipment. The goal: avoiding both equipment failures and unneeded maintenance work. BY LINDSAY CLARK

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N JANUARY, UK-based market research firm Global Data estimated that capital expenditures in the oil and gas industry globally would increase by 13% during 2012 to reach \$1.03 trillion (£650 billion at current exchange rates).

As well as being a sign of the growing confidence about business conditions within the oil and gas sector, that level of spending demonstrates the scale of opportunity for using predictive analytics software to help extract maximum value from the high capital costs that mark out the industry.

Warren Wilson, the US-based leader of analyst firm Ovum's energy and sustainability technology team, said avoiding unplanned downtime is the main driver for the adoption of predictive analytics by oil and gas companies for asset maintenance uses. "It's an extremely capital-intensive industry," Wilson said. "The kinds of problems that we're talking about have huge financial effects."

Many oil and gas equipment manufacturers and specialist services firms, including suppliers such as SKF, Roysing Dynamics and General Electric, bundle analytics software as part of their product offerings. From their own laboratory data, the suppliers can build models to help predict component failure, explained Paul Wheelhouse, a lecturer at Manchester University in England and director of Red Wheel Solutions, an asset management and maintenance consultancy. Input data from sensors measuring physical characteristics, such as vibration, temperature or the condition of lubricants, is compared with the model to assess the likelihood of failure of the equipment being monitored.

"You need to look at the failure modes that you want to cover [and] put in place the parameters to see if that failure mode is taking place," Wheelhouse said.

With the help of the predictive analytics tools, equipment can be replaced based on its actual condition and not according to a timetable set out by the manufacturer, potentially saving on replacement costs and eliminating unplanned downtime or catastrophic failure for example, when the software flags components that need replacing ahead of schedule.

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Predictive Analytics Aims to Help Minimize Environmental Damage

STATOIL, A Norway-based oil and gas company, is also moving to deploy streaming and predictive analytics software. But it has a more environmentally minded application in the works for the technology.

Statoil has begun a three-year project with IBM, oil and gas engineering services provider Kongsberg Group and risk management company Det Norske Veritas to use analytics tools to minimise the environmental impact of drilling and exploration.

The project will result in a real-time monitoring system designed to capture and analyse large amounts of physical, biological and chemical data generated by sensors and cameras installed around one of Statoil's offshore drilling facilities. The goal is to make it easier for the company to predict, detect and respond to operational issues that could cause environmental problems.

Vidar Hepsø, principal researcher and project manager for environmental monitoring at Statoil, said officials think the monitoring and analytics programme could contribute to the company's winning consent from regulatory authorities for proposed new drilling operations. "We firmly believe that this will increasingly become a way of doing business in the oil and gas industry," he said. "Those oil companies that are the first to take these kinds of measure into operations will be those that get the best acreage, for instance, in the Arctic waters." ■

PREDICTIVE ANALYTICS SOFTWARE TAKES NEXEN BEYOND TIME

Canada-based oil and gas company Nexen develops energy resources in offshore oil fields in the UK North Sea, the Atlantic Ocean off the coast of western Africa and the Gulf of Mexico. It also drills for shale gas and processes "oil sands" in western Canada.

From a base in Aberdeen, Scotland, Marjorie Chamberlain, a reliability specialist at Nexen, uses analytics software to help predict when equipment needs replacing or cleaning, as an alternative to

"With time-based maintenance, you might change a seal on a pump every two or three years so that it would not fail," Chamberlain said. "Instead, you can employ predictive techniques [for] condition monitoring to see when that starts to degrade, and then you can change it

relying on a time-based maintenance schedule.

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out so that you're not just pulling it apart for the sake of it."

Unnecessary maintenance not only adds extra cost to the business, it also can lead to equipment problems from introducing contaminants to the system or from parts being re-assembled incorrectly, she said.

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"What [Accenture is] starting to see is more of an enterprise way of thinking about this, an intention to exploit the data which large organisations have at their disposal." **—DUNCAN SLATER**

information management services manager, Accenture

The predictive analytics software that Nexen uses was developed by SKF, a provider of bearings and seals to OEMs that supply the oil and gas industry. SKF offers the @ptitude product as part of a service package and will either host the software and do analysis work for customers or license it for onpremises installation.

While such analytics tools can help improve the productivity of individual assets, such as an oil rig or refinery, users implementing the technology often fail to take a companywide view, said Duncan Slater, a manager at Accenture's

information management services unit in London.

"However, what [Accenture is] starting to see is more of an enterprise way of thinking about this, an intention to exploit the data which large organisations have at their disposal," Slater said. "There is an intention to make this more systematic, to start to deploy analytics in a more coherent, cohesive way across all of the assets."

When it's done properly, he added, "predictive asset maintenance is a shining example of how looking more closely at the data you have got at your disposal can bring significant value at an enterprise level." ■

MDM Tools Stealthily Move Forward in **Shade of Big Data**

Master data management, never an easy sell for IT managers, is now being overshadowed by newer and higher-profile data management technologies. But MDM software functionality continues to advance. BY JIM MORTLEMAN

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OU COUD BE forgiven for thinking that data management software vendors are bored with master data management. MDM isn't the sexiest concept for their marketing departments, and following a flurry of activity related to MDM tools in the latter half of the last decade, most of the product hype these days seems to have moved on to topics such as "big data" and data virtualisation.

In addition, MDM remains a fuzzy notion within many organisations, and that's likely contributing to its reduced public profile.

"There's a lot of misunderstanding as to what MDM is all about," said Clive Longbottom, founder of UK-based analyst group Quocirca. "Most people look at MDM and think it's just about cleaning up their customer records so they have one set of referential data. It's not. It's about finding out what matters to the business."

For example, Longbottom added, customer data might not be the key master record for a company. "It might be the things you're selling, your suppliers or most likely a combination of things—in which case you need two or more sets of referential data," he said.

MDM might not be easy to grasp or sell, but it can result in significant benefits for users, according to Aaron Zornes, chief research officer at the MDM Institute consultancy in the US. "MDM is very good at helping businesses do things that have traditionally been very difficult to achieve," Zornes said. His list includes cross-selling among different product lines and business units, gaining a single view of

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customers, patients and other entities, and dealing with regulatory compliance issues.

Indeed, Zornes thinks that MDM is a more useful concept than big data is. "I rise in anger whenever I hear the term 'big data," he said. "It's not like someone pushed a button and suddenly we're in the era of big data. Data has been getting bigger every year."

MDM's tentacles have reached out to embrace other key aspects of the IT and data management process, including business process management, data integration, data quality, data stewardship and—of course—big data management. And while it may have slipped under the radar somewhat, MDM is still an area in which there's plenty of technological innovation under way.

ONWARD, UPWARD FOR MDM TOOLS

MDM tools can help

data from the web

with traditional

structured data

through a unified

and that can pay

set of master data—

business dividends.

integrate text-based

Zornes' view is that there have been a variety of helpful advances in the technologies underlying MDM, such as identity resolution, which uses algorithms to help users understand things such as whether individuals are who they claim to be—an essential capability for risk management and fraud avoidance. "A lot of the newer algorithms are very good at sussing out who's who through indirect association—for example, through a common phone number or by knowing who's married to whom," he said.

Through a series of acquisitions, IBM has gathered capabilities in identity resolution, and Informatica and Tibco have made it a priority

as well, according to Zornes.

Data matching for identifying and consolidating differing versions of product data is another MDM category that has seen considerable investments by vendors, as highlighted by Oracle's January 2010 acquisition of product data quality software vendor Silver Creek Systems.

But one of the biggest areas of MDM innovation is around understanding the mass of unstructured data being generated on the Web. Zornes, again: "Companies think

that because they have bought, say, customer data from Dun & Bradstreet, they have a 360-degree view of the customer. In fact, it's more like 75 degrees. If you really want a 360-degree view, you need to sort through all that information out there on the Web—Facebook, Twitter, LinkedIn and so on."

MDM tools can help integrate text-based data from such sources with traditional structured data through a unified set of master data—and that can pay business dividends. "Being able to pull in information such as a customer's hobbies, their beliefs [and] what football team they support is extremely valuable for salespeople who want to get

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closer to their customers," Zornes said.

In addition, MDM systems are now going in-memory to offer dynamic data analysis capabilities in real time, according to Zornes. SAP is putting its MDM technology on top of its high-performance HANA in-memory processing engine, for example. "We'll soon see real-time MDM becoming not an expensive solution but the norm," he said.

Another big shift is Microsoft's planned integration of free MDM tools in the next version of Office, codenamed Office 15, which Zornes thinks will open up the MDM market to more small and mediumsized enterprises.

VOLVO: DRIVING FOR MDM INNOVATION

Having been working on in-house MDM since 2008, automaker Volvo is currently looking at products that could meet its future MDM needs. Belgium-based programme manager Christoph Balduck said that while the company sees a lot of potential value in the megavendors

> in terms of ensuring data quality, he thinks some of the more interesting innovations are happening among the niche players. "For example, we're looking at

> Talend, which has an open source offering that's particularly good at data migration," Balduck said. He also is impressed with what he has seen from MDM vendor Orchestra Networks: "They're looking at semantic modeling, which I believe is the future for MDM. It's also one of the few vendors with a cloud MDM solution."

Orchestra's DataSpace versioncontrol feature, which lets users simulate the effect that changes to master data will have on live systems, is particularly interesting to Balduck. "You can see not only how it will affect your [data]

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Снязторн Вацоиск, Belgium-based programme manager at Volvo, said the niche MDM vendors are coming up with some innovative products.

model, contents and attributes but also how it affects your workflow, business rules and so on—in multiple areas," he said, "If the simulation doesn't throw up any problems, you can then say the change is

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"Vendors are now talking about 'uber hubs,' but at the moment no one has the capabilities to integrate all the application packages at the level that the

—AARON ZORNES

business wants."

chief research officer, MDM Institute

OK to go live. That ability to be as flexible as possible could bring a lot of value."

But more MDM innovation is required: Zornes said one area in which vendors have been slow to respond to market need is in introducing MDM technologies that can help with data governance and data stewardship efforts. A number of smaller vendors are playing up their data governance credentials, but he said none of them is really there yet.

And there remain problems when it comes to integrating all the different sets of master data that have built up within organizations. "There's currently no answer other

than to buy yet another hub," Zornes said. "Vendors are now talking about 'uber hubs,' but at the moment no one has the capabilities to integrate all the application packages at the level that the business wants." ■

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