Banking on data warehouse successes

Data-driven culture impacts every department within St. George Bank.

by C.A. Doyle

St. George Bank is Australia’s fifth largest retail bank and one of the top 20 publicly listed companies in Australia. Over the past five years, St. George Bank has experienced exceptional growth in revenue and profitability while increasing customer satisfaction and its share price. Since 2002, the bank’s management team has pursued a strategy to grow shareholder value through providing excellent customer service. The bank has done this by engaging staff and expanding organically through product innovation and entry into neighboring markets.

Key to the execution of this customer-focused strategy is the bank’s Group Data Warehouse (GDW), a state-of-the-art tool that provides the data that employees need for faster, more effective decisions and continued...
customer-service excellence. The GDW, based on a Teradata enterprise data warehouse (EDW) platform and tools, is used by every department throughout St. George. The EDW provides information and analysis that supports customer service and knowledge, regulatory requirements and risk management, and analytics by product, channel and geography.

St. George has more recently discovered new ways to use the data warehouse to support strategic business goals such as compliance, cost reduction and increased profitability. By serving as the information-driven engine of the company, the GDW provides St. George with bottom-line benefits and a unique advantage over its competitors.

**Growth and strategy**

St. George Bank is building on its reputation as a dynamic, service-oriented and low-cost organization and is delivering results. The bank is pursuing an organic growth strategy built around ensuring high levels of customer service and staff engagement. These goals are strongly reflected in the bank’s EDW strategy and are as follows:

- Deepen and strengthen relationships with customers in the bank’s chosen markets
- Leverage the bank’s specialist capabilities for growth
- Creatively differentiate on service
- Accelerate and empower relationship selling
- Build team and performance culture
- Optimize cost structure

The bank’s Group Information Systems (GIS) team manages St. George’s data warehouse and business intelligence (BI) platform. The bank created a GDW architecture to support a new 360GB EDW, one that included data from nearly all areas of St. George.

St. George also reconciled the daily history produced by the warehouse with its general ledger. With this change, all financial data became synchronized, eliminating discrepancies between the GDW and accounting data and allowing the bank to begin using warehouse data to meet increasingly stringent regulatory reporting requirements from the Australian Prudential Regulation Authority (APRA) and The Basel Committee (Basel II).

The GIS team quickly sensed that the data warehouse was being viewed differently. No longer a discrete project, users began seeing it as an ongoing program designed to support the bank’s business needs. The business that values information succeeds.

“Our success is only because of the great people in the business area who can execute and use the data,” says Gary Carter, general manager of IT relationships and GDW. “You have to have a culture that can use the data, have the vision and actually execute it.”

The bank became more data-driven, using the data warehouse to support new initiatives, provide business enablers, and support its strategy and governance requirements. “Once we had that building block in place, we could do our regulatory and credit reporting because we know the numbers are complete and accurate,” says Carter. “These APRA figures specify our assets, liabilities and risks to the regulators. That’s the confidence we have in our [data] warehouse.”

By implementing standards on how data is modeled and documented in the GDW and how it can be used throughout the bank, the GIS team has created comprehensive, accurate reporting that provides a single version of the data to all users. “Now senior executives using the reports can roll up data to the CEO with the assurance that the figures will agree,” says Paul Scott, team leader for group reporting systems.

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**Never accept the status quo**

Financial institutions commonly re-evaluate their information technology solutions. In 2004, St. George Bank conducted an internal assessment of its Teradata Warehouse. A third-party analysis team from BearingPoint (McLean, Va.) conducted an independent review. The conclusions from both teams were identical: The bank decided not only to keep the Teradata Warehouse but also to upgrade it.

“Teradata has proven technology with significant advantages in some key areas, and greater depth and experience in providing industry knowledge and solutions,” says Gary Carter, general manager of IT Relationships and Group Data Warehouse (GDW) at St. George Bank. “Teradata’s relationship with BI [business intelligence] provider Business Objects is a major plus. Finally, Teradata had the strongest and most relevant references for the bank. In short, Teradata works!”

Realizing that St. George would soon exhaust its system capacity, the Group Information Systems (GIS) team implemented a four-node 5400 Server running Teradata Database V2R6. The data warehouse was implemented in one weekend during April 2005. The software arrived preloaded on a single server, which replaced the old data warehouse on another unit. Each node includes Teradata Parallel Database Extensions (PDEs), which enable massively parallel processing. The PDE layer allows the Teradata database to perform independently of the operating system (OS).

“The machine was staged on site,” explains Damian Plueckhahn, senior software advisor, project leader of the infrastructure team and database administrator. “When it was handed over to us, it was preloaded with the operating system; we didn’t have to install it or configure it or tune it. Teradata made it easy for us to upgrade and deploy state-of-the-art technology that will help us meet our changing business challenges.”

—C.A.D.
Today, the GDW is operationally entrenched in the bank, serving all departments with data, insights and business value in customer service, regulatory requirements and risk mitigation, and powerful analytics.

Banking on success
St.George uses the GDW to support three primary business needs:
> Analytics and BI
> Regulatory compliance and risk management
> Customer service and knowledge
Within each area there are dozens of applications, each of which supports the strategy.

Analytic and BI
The St.George GDW provides analysis throughout the organization that is used to better understand customer behavior, marketing strategies, industry trends, bank profitability and other business drivers.

Recognizing the growing use of the GDW throughout the organization, the bank decided in 2005 to expand report generation tools for end users. First, it provided a reporting tool that supports financial and sales reporting; this tool also enhances reporting governance by providing a single view of all bank information.

The more information that users get from the reports, the more new and interesting questions they think to ask. “It’s like a little seed of imagination growing into a big tree,” says Damian Plueckhahn, senior software advisor, project leader of the infrastructure team and database administrator (DBA). “Once they realize they can get the information, it gets the cogs turning and they expand on their thinking.”

The bank has long had power SQL users who have been able to develop their own reports. However, these users created duplicate reports or different views of the data. “With the current tools, we are harnessing the data warehouse by trying to produce reports that have a standard flavor and are

Figure Compliance starts with the GDW at St.George Bank

Compliance data is extracted from multiple sources and fed to the Teradata Group Data Warehouse.
distributed consistently across all divisions,” says Scott. “By providing Web-based reporting and business intelligence capabilities, we are effectively maximizing the power of our end users.”

The GDW also supports St. George’s corporate governance initiatives. The bank has several governance committees for different areas, including one for the data warehouse and another for the group reporting system. These committees, comprising senior bank executives from across the enterprise, prioritize reporting workloads according to the jobs that will provide the most effective returns to the bank. These executives also represent all reporting issues from their own divisions and work together to identify opportunities to leverage reporting across divisions.

**Regulatory compliance and risk management**

In 2003, when St. George first implemented a reporting application to meet APRA requirements and created the first Basel II program, the GDW became the foundation for compliance. St. George used the GDW to create necessary APRA reports and to collect, store and analyze credit risk data, which ensures that the bank has adequate capital to support its risks.

The enterprise risk management program was enhanced in 2004 and 2005. Today, St. George can analyze its risk using a variety of core variables, such as probability of default and loan exposures. A credit risk management program uses applications from SAS Institute to assess the bank’s portfolio for risk variables on all lending products. The reconciliation of the bank’s GDW data with the general ledger paved the way for St. George to use the data warehouse to support its compliance and risk management initiatives. Although the bank was quick to use the GDW for compliance, increasing regulation and government oversight have given the data warehouse team many opportunities to refine its approaches.

All logical views of the data are created in the GDW, and calculations and derived data are stored there for re-use. High-quality data is essential to the success of the bank’s Basel II activities. In fact, recent Basel II activities have helped the bank identify certain data subject areas where data was incomplete or inaccurate. The GDW is helping St. George identify data issues in its Basel II activities and create a more complete, accurate picture of operations. Over time, this will enhance St. George’s profitability and success. “The more sophisticated we get with our Basel II modeling of risks and lowering our risk variables, the higher our accreditation and the lower the capital we must hold,” says Paul Munns, GDW team leader for major projects.

St. George also uses the GDW to handle two components of its asset and liability management program. “We can cost or make the bank money very quickly, so these asset and liability decisions must be made on accurate information,” says Andy Biesaga, executive manager of funds transfer pricing. “We depend highly on having accurate and current data to show us our position and what we should do. By mastering the information, we can increase the bank’s profits.”

**Customer service and knowledge**

St. George is continuously optimizing its cost model while striving to increase the number and profitability of its customers—and enhance the bottom line. The GDW helps the bank do this in several ways. The Customer Knowledge Team, one of the most frequent GDW users, runs many marketing campaigns with the insight delivered by the EDW. For example, by using credit scoring models, marketing personnel can determine

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**Technical benefits of the Teradata Warehouse**

**Efficient use of resources:** The multi-value compression feature provided with the Teradata Database V2R5 release helped St. George Bank save 10% of the space on its data warehouse when space was at a premium. “We saved over 120GB when our warehouse was at 1TB, so that was quite a savings,” says Damian Plueckhahn, senior software advisor, project leader of the infrastructure team and database administrator (DBA). “We were able to keep running an extra six months on the same platform, which was nearing the end of its life, as we were preparing for our next upgrade.”

**Heavy-duty data processing, with no performance loss:** Partitioned primary indexes helped the infrastructure team extend the transaction table from one year to three years. Being able to store this additional information was well-received by users.

**Safe environment for innovation:** The Teradata Warehouse provides St. George Bank with a safe environment to try innovative ideas and applications. Other operational systems require a more stringent testing environment before new applications can go live. With Teradata, any mistake can be corrected without damage to the bank’s data.

**Manageability:** Despite the thousands of jobs and tables in the St. George Group Data Warehouse (GDW) and its hundreds of users, it is managed by only one DBA. The bank was able to handle Australian Prudential Regulation Authority (APRA) compliance with two businesspeople and one IT person; other banks often have as many as 15 people on the project.

—C.A.D.
which customers should be offered pre-approved credit cards with customized spending limits. Using this data, analysts have improved response rates from a typical 1% to 2% to a rate of 5% to 6%. Because the campaigns are far more targeted, fewer non-productive contacts are made—reducing overall campaign costs and increasing success rates.

Further, St.George analysts are using the GDW to dig down into the data and deliver more granular levels of analysis. For example, one team is trying to determine the most effective number of times to contact a customer with a credit card offer. By tracking how many times a customer is contacted, after which contact the customer decides to accept the card, and how the customer rates in the use of the card, the team is working to understand which customers are most profitable and least risky to acquire.

**Enhanced decision support**

Using the Business Objects reporting tool to create different universes (views of the data) for specific user groups, customer-facing groups in the bank can quickly gain the information they need to make fast, accurate decisions. “Using certain Teradata features—such as join indexes, partitioned primary indexes and putting statistics on selected columns—we have reduced the run-time of a report from five minutes to 30 seconds,” says Plueckhahn.

The GDW can also verify the value of old approaches or support new ones. For example, one St.George organization was considering adding a rapid response service to its call center for high-value customers. Kirsten Bryden, head of customer knowledge, used the GDW to reveal that high-end customers rarely use the call center and were unlikely to gain benefit from a rapid response team. “I love having the ability to hear a discussion point or take someone’s question and investigate the facts, find out why things are the way they are,” she says.

**Future plans**

St.George Bank plans many improvements to the GDW and the way it is used. To meet anticipated new reporting and risk management requirements, the bank has created a view of the Basel II data within the GDW. This view allows users to generate required reports using the Business Objects tool. This data is also increasingly used to meet other regulatory needs and it provides a...
foundation for identifying new trends in bank activity. With increasing Basel II experience, St. George has expanded from sheer compliance to true risk mitigation programs.

The predictive models developed to enable the loan default projects now support credit risk mitigation. With that information, the bank can refine its models to more accurately reflect recent conditions. In turn, this refined model may also be used to support additional compliance mandates, such as those required under International Financial Reporting Standards (IFRS).

St. George will continue deploying new customer relationship management (CRM) capabilities that provide customer-facing employees with vital decision-making information. The bank plans to leverage analytics to identify opportunities and develop new customer insights. And the CRM system will be enhanced to collect more data.

User response to the data warehouse has been strong, but the GDW team expects explosive future growth as more employees understand how the data warehouse can be used. Carter recommends strong governance over the user base and strong proactive support by the data warehouse team to ensure optimal use of the data warehouse.

While much has been achieved and great value derived from the data warehouse assets, St. George is committed to a process of continuous improvement. Accordingly, the bank is evaluating enterprise information management tools and processes to improve the extract, transform and load (ETL) function and data quality, as well as the availability and accessibility of the GDW. Furthermore, as the GDW continues on the path to mission-critical status, the bank is considering activating its currently cold disaster recovery system and moving toward a dual active implementation. This would enable it to meet increasingly demanding business service level agreements.

Technology is the keystone of business success. “We like seeing where we can leverage the technology, taking all of those new features and enhancements and applying them to the day-to-day running of the EDW,” says Plueckhahn. “At the end of the day, it benefits us as DBAs and developers, as well as the users and analysts.”

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—Gary Carter, St. George Bank

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