
Project failures are the dirty little secret of data warehousing. Anyone who has spent time around data warehouse projects is likely to have chalked up a failure or two. The majority of those debacles can be attributed not to technology snafus but to lack of strong executive sponsorship and to poor management.

For many, being part of an abysmal data warehouse project is a rite of passage. But that doesn’t make it any easier. The project manager and consultant who were central figures in the data warehousing effort at the company we’ll call Close Call Corp. deserve credit for candidly sharing their experiences here. Through a spokesman, the CEO of Close Call—who pushed for the warehouse in the first place—declined to comment.

Because it’s so hard to do data warehousing well, the kinds of things that went awry in this case study could afflict any implementation in any industry. Do not, therefore, assume your company is safe from a failure of this magnitude. If you look closely—and are honest about it—chances are, you’ll recognize some of the red flags raised here.

Editor’s Note: All names in this case study have been changed.

The road to hell is paved with golf games. For the CEO of Close Call Corp., his trip netherward began with a day on the links in the fall of 1995 with a software vendor. At the time, the CEO was particularly vulnerable to a “business-transforming” pitch. He knew he needed to make technology changes—and fast. His teleservices company, which he’d founded with $200 in the 1970s and had grown into a modest empire worth $100 million, was at a crossroads. Intent on choosing the straightest path through a double-digit growth period, he was searching for technological help. So when the vendor tempted him with visions of integrated data flow and information on demand, the CEO couldn’t resist.

Historically, Close Call’s outbound (telemarketing) and inbound (catalog sales) business units had operated as totally separate companies. The company had recently gone public, and rapid growth was putting major pressure on its antiquated and proprietary systems. The vendor made a convincing case that a data warehouse was the answer to Close Call’s prayers. Nothing to it, went the siren call, you can be up and running on a fully functional data warehouse in three to four months. The CEO began salivating at the thought of providing a unified view of Close Call’s business data to its autonomous business units.

But with 1996 already shaping up to be a banner year for Close Call, the timing for a data warehouse project could hardly have been worse. The company was planning to expand from six call centers to 116, implementing new, open switching systems in the new centers to enable automatic dialing and call routing. In addition, information systems (IS) was updating all of Close Call’s internal management systems by deploying new human resources and general ledger software.

When the CEO returned from his fateful golf game and sounded the call for a data warehouse, he ensured that 1996 would be a year to remember—but not for the reasons he’d hoped.

Unrealistic Expectations
The CEO expected the can-do culture that he’d nurtured from the early days of the company to carry it through this period of exponential growth and technological change. He believed that making all the systems changes—including building the data warehouse—in a very short time frame was just a matter of getting the right people for the job, according to a consultant we’ll call Michael Farraday, cofounder of the data warehousing and decision support consulting firm that was called in to do the warehouse design and data modeling. "He put decisions in place and said, ‘Go make this happen.’ That approach had always worked in the past. Not this time," says Farraday.
Based on the few technology tidbits he had obtained from the software vendor on the fairway, the CEO was convinced he could have a 500GB production data warehouse up and running in four months despite the fact the existing IS staff was already stretched to the limit. Before the project team was on board, he set the project deadlines and a budget of $250,000, the ultimate no-no, says Farraday, who has 12 years' data warehousing experience.

Because no one in-house had data warehousing experience or time to devote to the project, five outside people were hired. The outsiders included Manager of MIS Jackie Pemberton (not her real name), who was brought on in part to manage the data warehousing project, and a director of MIS, both of whom had proven data warehousing track records and a combined total of nearly three decades of experience in the field. Pemberton was also put in charge of the general-business systems software rollout.

Unrealistic time and resource allocations alone might not have grounded Close Call's data warehouse had the business ranks been clamoring for the information it could provide. But because they'd never been exposed to an analytical environment before, the users didn't know what they were missing. Indeed, the business unit managers were quite content with the canned reports they could get from a DOS-based Reflex database. The few who needed more analysis entered the report numbers into a spreadsheet and did rudimentary manipulations.

The lack of demand for a new reporting system foreshadowed a virtually insurmountable problem, says Farraday: Down the road, the users would not be willing to commit the time and effort required to make the warehouse a success. "The challenges go up dramatically if the data warehouse represents the first analytical environment," says Farraday. "[The users] never really understood what a data warehouse could do."

The Project Launch
The new director of mis assembled the initial project team, consisting of Pemberton, two senior managers from sales and telemarketing and a database administrator as well as Farraday and another consultant from his firm. Pemberton, the director of MIS and the consultants pushed back on the scope of the project, the preset deadlines and budget, but the CEO stuck to his guns. Ultimately, he grudgingly accepted the idea of a pilot in five months rather than insisting on the full-blown production warehouse. But he never seemed to understand the magnitude of the undertaking, says Farraday.

From the start, the data warehouse lacked a clearly defined business objective, mostly because the users had never asked for greater analytical abilities. Pemberton believed she would be able to articulate the business case herself after gathering detailed user requirements.

Early on, Pemberton met weekly with the director of MIS, who in turn met separately with the executive sponsors (the CEO and the CFO) every week. Only when things began to fall apart several months later did the four begin to meet face to face each week. Also, the general managers of the business units said they were too busy to get involved in the requirements assessment stage of the project. "The feeling was, 'Go talk to my guys. They'll tell you what they need,'" says Pemberton. In retrospect, she says the director of MIS didn't reach out to the business users as much as perhaps he should have.

Despite the early uncertainties, optimism prevailed at the project launch. "[The director of MIS] had so much positive energy. I really thought together we could make this happen," says Pemberton.

Collecting User Requirements
Farraday and his consulting colleague saw the process of gathering user requirements for the warehouse as critical. Along with Pemberton, they embarked on three painstaking months of interviewing the key users as 1996 began. Instead of merely asking users what data they needed from
a data warehouse, they invited them to talk in general terms about their jobs, homing in on how their job performance was evaluated and how they managed people.

Although the users complained the interviews took too much time, everyone felt this stage had been a resounding success. In spite of the very separate business units, the team was beginning to build the consolidated picture of the business they’d need to begin constructing the warehouse.

Building the Business Model
As they collected user requirements, Pemberton and Farraday set about creating a business model that would capture the business professionals’ requirements in their own terms. Independent of technology, this model would define the business dimensions (for example, looking at the business in terms of products, locations or time periods), attributes, relationships, facts and logical navigation paths, all of which would translate to the design of the warehouse. The challenge was to get the distinct and autonomous business units to settle on these critical definitions.

This, too, went much more smoothly than anticipated. “People from different groups were agreeing on things they had never agreed on before,” says Farraday.

The bad news was that the model revealed a highly complex set of business requirements and an inconsistent group of data “facts” that would populate the warehouse. Unlike a retail data warehouse in which the quantity of a particular SKU sold at a particular time becomes an unalterable “fact,” performance of customer service representatives—what Close Call was trying to measure—was much more subjective and obscure. Business managers had created their own customized spreadsheets into which they reentered the data they wanted to examine from the Reflex database reports. Because the managers looked at things differently (for example, some defined “revenues” as actual revenues, others considered them estimated revenues), defining the fact groups therefore became a hellish ordeal that required sorting through literally hundreds of calculations based on subjective assumptions. This process alone took nearly a month, says Farraday, which meant the team couldn’t start building the relational format and user interface. It was a delay the executive sponsors were not inclined to forgive.

Source Data Crisis
Then came the biggest blow to date. With the pilot deadline at hand, Close Call’s IS veterans, who believed their jobs were threatened by the data warehousing project, finally admitted to the project team that there was no way to populate the warehouse. The only data available was basic customer and transaction information that had been captured by Close Call’s proprietary telecommunications switching systems as a byproduct of call routing. Writing a program to extract that data for the warehouse would be too expensive and time-consuming even to consider. Clearly, the old switching systems in the original six call centers would have to be updated with open technology to capture the data for the warehouse electronically, says Farraday.

Panicked at the thought of breaking that news to the executive sponsors, the team jury-rigged a way to populate the pilot by parsing the DOS-based Reflex reports and manipulating the report data into a relational database format. But the handwriting was on the wall—without replacing the proprietary switching systems, there would be no data warehouse.

By this point, Pemberton and her team were in overdrive, working 15-hour days, six days a week. Twice-weekly trips to Close Call’s other major corporate office in the next state also took their toll. "I was trying so hard, but it was an emotional nightmare," says Pemberton.

The Pilot
The pilot contained a small summary-level set of data that the team had manipulated and manually loaded into the database. After the pilot was complete in August, the team faced an unpleasant
revelation. Even if there had been pristine source data, the users weren’t having any of it. "They said, ‘You’re giving me what I already had, and it’s harder for me to get it and the data doesn’t even match my hard copy,’” recalls Farraday. "We lost the users at that point."

The anger began to build and hit a crescendo in the executive suite. "They had wanted their production warehouse in place in four months and at the end of eight months we said, ‘Here’s your itsy-bitsy little one-page pilot, and guess what, you’re not even getting your warehouse,’” says Pemberton.

It was all over but the shouting.

Crashing Down
A few weeks after the pilot debacle, Pemberton found herself with a new boss. The director of MIS, who had been promised the CIO spot, ended up with two new bosses, who shared the responsibilities of IS management as vice presidents of technology. To no one’s surprise, the director of MIS elected to leave the company shortly thereafter.

Undaunted, Pemberton assembled a team of 57 IS staff and business users and in a few weeks created a detailed plan for reengineering the outbound business processes and updating their systems. With her heart in her mouth and passion still unspent, she presented her plan to the executives in October 1996, telling them it would take two years to reengineer before they could even begin the data warehouse. She said she believed nothing less than the survival of the company was at stake. Her words fell on deaf ears. "They said, ‘Thanks for your work, but no thanks,’” says Pemberton. No one spoke in favor of her proposal at the meeting.

The Aftermath
Close call’s CEO canceled the data warehousing project in October 1996. Though it was hardly a shock, Pemberton was shattered. "I had never been involved in a situation where I failed at my job. I had gone in with such high hopes. I really wanted to give them a data warehouse," says Pemberton. In February 1997, she quit without a new job nor any prospects of one and took three weeks off to recover. (Pemberton reports she is now a senior data warehousing manager for another company and has just delivered a pilot of a data warehouse.)

From the CEO’s point of view, the entire project had been a fiasco, says Pemberton. The anemic pilot was delivered four months later than the initial (highly unrealistic) deadline for the fully functional warehouse. Although the CEO had budgeted a paltry $250,000 for the project, the team had spent nearly $750,000 on hardware, software and services.

"Management finally said, ‘We have spent a lot of money, and we have gotten no value,’” says Pemberton. "It was devastating."

Besides wasting money and time, the project cost Close Call 50 percent of its IS staff, about half of whom quit, according to Farraday. Today, Farraday reports that the company is reengineering its outbound business processes with an eye toward another data warehousing attempt. But in the meantime, Close Call’s stock price has taken a beating, losing more than two thirds of its value between October 1996 and September 1997. Farraday attributes the company’s change of fortune to attempting too many technology projects at once. "They bit off way more than they could chew," he says.

So much for believing everything you hear on the golf course.

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Red Flags

Signs the Close Call data warehouse was destined to fail:
- No pre-launch objectives or metrics
- Many major systems projects underway simultaneously
- The CEO set budgets and deadlines before project team was on board
- No insider presence on data warehouse project team
- An overburdened project manager
- Source data availability unconfirmed at the outset
- No user demand for sophisticated data analysis
- No routine meetings of executive sponsors and project manager
- No initial involvement of business managers

Visit CIO’s Data Warehouse Executive Resource Center (www.cio.com/CIO/rc_dw.html) for a collection of data warehousing resources.

For a list of 10 data warehousing mistakes to avoid, visit The Data Warehousing Institute’s Web site at http://www.dw-institute.com/papers/10mistks.htm

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Post Mortem
Lessons from the Close Call data warehousing disaster
- Executive sponsorship and partnership with IS are the most critical success factors for a warehouse. If possible, establish dual leadership by business and IS executives for the project or pick a project manager from the business side of the house, says Jane Griffin, president and CEO of Systems Techniques Inc., an Atlanta data warehousing consulting and software company.
- Don’t let the project proceed without a clear understanding of the business objectives and how they will be measured. “The warehouse must have a strong business imperative,” says Stephen Graham, vice president of software research for International Data Corp. Canada in Toronto. (IDC and CIO Communications Inc. are sister companies.)
- Do an incremental pilot project to determine if you can realize the projected benefit.
- Expect to make a major investment in ongoing management of the data warehouse. “Any parent knows birth pales in comparison to taking care of the kid every day,” says Wayne Eckerson, director of the Business Intelligence and Data Warehouse Service of the Patricia Seybold Group in Boston.
- When all else fails, cut and run. Data warehousing consultant Barbara Gaskin gives Close Call credit for making a clean break with the project once it was clear the pilot had failed. "It was a smart decision to abandon that project. Companies often hemorrhage money serving one small user group," says Gaskin, principal at Decision Support Technology Inc., a consulting firm in Wellesley, Mass.

L.G. Paul
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Data Warehouse:
A relational database filled with large volumes of cross-indexed historical business information that users access with desktop-based query tools. The warehouse resides on its own server and is separate from the transaction-processing or run-the-business systems.

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