



CHAPTER ONE

Management Issues

Whenever anything is being accomplished, it is being done, I have learned, by a monomaniac with a mission.

—Peter F. Drucker

OVERVIEW

A sound management structure is one of the critical success factors for a data warehouse. A strong, positive attitude by managers in both the business and information technology (IT) departments is critical to success; projects have come to a halt when the project's sponsor left. Some sponsoring managers don't stay long enough in their positions to see projects through to completion, not due to incompetence but because of the dynamic nature of the organization. Thus the loss of a sponsor before a project completes is a likely event. A strong, dedicated sponsor present throughout the process is a critical success factor for a data warehouse.

Management often does not know what is going on with the data warehouse and does not understand its value. Without this understanding, there won't be funds to support existing data warehouse systems, nor will there be funds for future systems. Some organizations have a terrible track record, collecting multiple data warehouse failures. These failures are usually the result of management not understanding, not caring, and not devoting the necessary resources to make the

data warehouse successful. Success requires a change in the way management views data warehouse projects.

Data Sharing

Information is power, and division heads are loath to give up any power they see leaking from their empires as a result of a data warehouse. Following a norm to not share data has implications for the entire organization and affects the ability to maintain a single version of the truth.

Often users don't share data for a number of reasons. The users may genuinely believe they are the only ones smart enough to receive, validate, and interpret the results of a query or report. Some managers may believe that sharing their departmental data would give their bitter rivals ammunition to be critical. Sharing data may give supervisors the ability to micromanage (a management activity that is definitely not appreciated by their staff). Since data is power, managers may correctly believe they lose some of their power by sharing data. And finally, managers may not want to share their data because, before it is released, they may want to adjust the results, sometimes putting their own spin on the numbers. These managers may want enough time to be able to justify poor results or to actually change the numbers before the rest of the organization's members see the results.

We have seen situations where people in management, for reasons of power and politics or sometimes fear, have fought against the project from the beginning and continue to do so as the project is developed. They may continue to sabotage the project or sabotage its reputation even after the project has been implemented.

Criteria for Success

Some data warehouse implementations fail. It's possible that many of those "failures" would be considered by some to be successes (or at least to be positioned someplace between failure and success). The criteria for success are often determined after the fact. This is a dangerous practice since those involved with the project don't really know their targets and will make poor decisions about where to put their energies and resources.

Users are instrumental in setting these criteria, but managers must set realistic goals for performance and address what data will be provided in

each phase. The list below presents a suggested set of criteria for evaluating the success of a data warehouse project.

- The data warehouse is used and useful.
- The company makes an acceptable return on investment (ROI).
- The project meets business- and performance-based benchmarks, for example, improvement of customer satisfaction ratings.
- The users generate new requirements, for example, more users want more data warehouse capabilities, increased access, and new data sources.
- The users are satisfied with the response time and the overall performance of the data warehouse. This is not only a question of the system giving quick response but also a function of what the users expect. The data warehouse team should set users' performance expectations early and often (with compliments to the late Mayor Richard Daley of Chicago).
- Satisfied users are willing to sing your praises. Be sure to ask.
- The goals and objectives for the data warehouse (assuming they have been identified and accepted) have been met.
- The data warehouse helped solve a business problem. For example, a manufacturing company could experience a problem due to inadequate quality information, which a data warehouse could resolve.
- The company realized a business opportunity. For example, a data warehouse that provides customers with critical information unavailable from your competitors could help your company secure large clients.
- The data warehouse has become an agent of change. For example, a data warehouse that fundamentally changes the way an organization approaches decision making could result in more timely decisions based on higher quality information.

In the remainder of this chapter, we'll explore seven situations that arise in the realm of management issues and present suggested solutions for each one.

THE DATA WAREHOUSE HAS A RECORD OF FAILURE

This is the third attempt at a data warehouse. The first two failed, and the general feeling is that this one will also fail. What can the project manager do to dispel the negative conventional wisdom about the data warehouse?

Sid Adelman

Talking up the data warehouse and telling everyone how good it's going to be is a wasted effort. The only thing that will convince this organization is a successful implementation. The project manager should deliver something of value and deliver it quickly. He or she should ask the project's business sponsor to tout the success of the project and to point out specifics on how the data warehouse made a difference to the department.

Joyce Bischoff

First, the project manager must understand why the first two projects failed and address those issues in the project plan. He or she must ensure that project members are well trained and that the organizational issues are addressed. It would probably be helpful to bring in a high-level data warehouse expert from a consulting firm to act in an advisory capacity to ensure that the project addresses critical issues.

Douglas Hackney

The first step is to perform the due diligence necessary to fully understand the failure drivers for the prior efforts and to mitigate those drivers in the current initiative. During the very important second step, the project manager must create a new brand name for the project that does not use the term *data warehouse*. Finally, for the third step the project manager must focus specifically and exclusively on delivering incremental relief of life-threatening business pain.

Chuck Kelley

Well, you know the old saying, "Third time is a charm!" It would be nice to know why the first two attempts failed. There are many reasons for failure, and most of them are not technical but political and/or personal.

The project manager's critical role in this third attempt involves completing the following tasks.

- Define a clear business case, and develop the consensus understanding of what the data warehouse will and will not do.
- Create the appropriate committees of the right people (representing the business side and the technology side) to aid in the development of the data warehouse.

- Keep a constant presence with business users, letting them know what is happening and what will happen next.
- Continue to capture feedback on what is going well and not so well.

The project manager needs to find a senior management champion, someone who understands the need for the data warehouse and can articulate it to the other members of the senior management team. The data warehouse champion will support the building of the data warehouse and act as the arbitrator of any issues that arise between the groups.

David Marco

It is important to understand why the previous initiatives failed and to have a plan that will mitigate these issues for this third attempt. The project manager must be honest about why the previous attempts failed. He or she shouldn't gloss over the problems; the team making the new attempt will likely face the same problems.

Larissa Moss

Hopefully the project team conducted postimplementation reviews on the two prior data warehouse projects to learn from the mistakes. The project manager can use the review results and other sources of information about data warehouse development to show the users and management that the third attempt will be different. He or she should set up a meeting with all stakeholders and briefly cover the reasons for the prior failures, followed by a review of the different approach planned for the next project, showing how the team will avoid the prior pitfalls. The project manager should also set up a weekly communication channel (through meetings, e-mails, or an intranet Web site) to convey ongoing progress as well as roadblocks and resolutions on the project. He or she should also engage the users and the sponsor to promote the data warehouse efforts and their progress.

A bad reputation is not easy to overcome. But given good communication and enough time, a well-organized and well-managed project should produce positive results—and positive results are the best way to recover from a bad reputation.

Clay Rehm

Instead of spending time talking, the project manager should just do it. How? Every single project team member must work hard to produce deliverables each week, to communicate every day, to hold a positive attitude even when other people are negative, and most importantly, to keep up the effort. One rule for project success: "Always have a smile on your face and tell yourself and everyone you meet that the team will succeed!"

So how can the project manager motivate the team? It is up to him or her to keep everyone excited about the data warehouse project. The disposition of the project manager will rub off on the team, good or bad. The body language, tone of voice, and expressions on the face of the project manager can do a lot for the morale of the team.

The project manager should staff the project with team members who have positive attitudes, who have experience with difficult projects, and who are willing and able to do what it takes to get the job done on time. This means assigning to the project people who are willing, if asked, to work 15-hour days or 7-day weeks.

Even if a team member does not have experience with a given tool or technology that the data warehouse will use, the project manager should determine whether the team member is willing to learn and is quick to learn a new tool under the most trying of circumstances.

Since there is a history of failure, the project manager should consider retaining a consultant who has experience with data warehousing and have that consultant provide best practices, standards, and templates.

The following best practices can keep a project from failing.

- Get close to the users and become their friend.
- Get to know what the users need, and support those needs.
- Take a personal interest in the project.
- Communicate through the use of diagrams; everyone loves visuals.
- Document the current state of the project and the desired future state, and show the steps planned to get to the goal over time.
- Always have a positive attitude and be easy to get along with.
- Tell yourself that failure is not an option.
- Sit close to your users.

The moral of the story: A team filled with pride and positive attitudes can go a long way.

IT IS UNRESPONSIVE

The data warehouse is fairly new in the organization. The data warehouse manager reports two levels below the chief information officer (CIO). The IT people on the operational/transaction side are not cooperating with those on the data warehouse side. The IT people on the operational side were unresponsive to requests for resources and information about the operational systems, and now they're not responding to requests for source data that will go into the extract/transform/load process. What should the project manager (who reports to the data warehouse manager) do?

Joyce Bischoff

Does the data warehouse manager report to the CIO through other managers? If so, it is in the CIO's interest to ensure IT's cooperation. If not, the highest levels of executive management need to be involved in supporting the project. Forming a data warehouse advisory committee with responsibility and authority may solve the problem.

Douglas Hackney

The project manager must immediately escalate the issue to the highest level possible. He or she must discover exactly how much support can be expected from the key stakeholders. If the project manager cannot gain support, then he or she will need to adjust the goals and methods accordingly.

Chuck Kelley

The project manager needs to keep a strict log of requests and delivery times, keeping the data warehouse manager up-to-date about specific problems. The data warehouse manager needs to get to the operational side and see what can be done. If that doesn't resolve the problem, then the data warehouse manager needs to get the ear of the CIO. During this time, the members of the data warehouse team need to continue to build relationships with the operations staff to see if they can alleviate the situation.

Larissa Moss

Clearly data warehousing is not a strategic business initiative in this organization. This is evidenced by the placement of the data warehouse team—two levels below the CIO—and by the mere fact that another IT group can snub the data warehouse team and get away with it. The only hope for the project manager is to have a strong and influential business sponsor supporting the data warehouse initiative.

The project manager should meet with the data warehouse manager and the business sponsor to discuss the situation and to prepare a strategy to force the operational team to cooperate. As part of the strategy, the business sponsor should take this issue to the business executives whose departments originate the source data needed for the data warehouse. The data warehouse manager and the sponsor should also meet with the CIO to discuss the issue. If those efforts fail, it will be evident that the business sponsor is not at a high enough position in the organization and does not have enough influence to remove this roadblock.

Bottom line: If the data warehouse project was initiated by this sponsor, she or he has an uphill political battle to fight. If it was originated by an executive higher in the organization, possibly even the chief executive officer (CEO), then this issue must be taken to him or her. If the data warehouse project is an IT initiative, this would be a good time to give it up.

Clay Rehm

This sounds like some research needs to be done to find out why the online transaction processing (OLTP) IT people are jealous of the data warehouse staff. There could be many reasons why the OLTP IT staff members are not cooperating.

- They are too busy.
- They are bitter that the data warehouse team has stolen their talent.
- The data warehouse team gets to play with new technologies.
- The data warehouse team may have new offices, cubicles, or work surroundings.
- The data warehouse team may have gotten bonuses or awards for building the data warehouse.
- Members of the OLTP team may have wanted to be on the data warehouse team but were not selected.

The project manager must spend the appropriate time researching and identifying the reasons the OLTP team is not cooperating. After identifying the true reasons for noncooperation, the project manager must determine a course of action to resolve the problem quickly and without much fanfare. Since the data warehouse team relies so heavily on source systems, everyone must consider themselves as one big team.

Here are some possible suggestions for how the project manager can bridge the gap between the teams.

- Find a way to let the OLTP IT people temporarily “intern” on the data warehouse team for a specific project or task.
- Offer the resources of the data warehouse team to intern on the OLTP team for a specific task.
- Offer training on new technologies to the OLTP IT staff.
- Ask the OLTP IT management to give visible praise, bonuses, and so on to the OLTP IT staff members when they accomplish some tasks that are related to the data warehouse project.
- When openings appear on the data warehouse team, consider filling them from the OLTP IT team.
- When the data warehouse team does any marketing efforts or presentations on the data warehouse, give recognition to the OLTP IT staff members, indicating that the data warehouse could not have been implemented without their involvement.

Bottom line: Instead of simple finger-pointing, this effort requires tact, sensitivity, and professionalism.

MANAGEMENT CONSTANTLY CHANGES

A very dynamic organization is constantly changing management. It is unlikely that the corporate sponsor will remain for the duration of the project. What should the project manager do?

Sid Adelman

The project manager should get a backup sponsor or, better yet, solicit a few high-ranking sponsors who will be able to support the project even if the initial sponsor leaves. The project manager should choose sponsors who are politically powerful, have a substantial interest in the project's

success, accept problems (since a project will always have problems), and have both a long-term and short-term perspective of what needs to be accomplished.

Joyce Bischoff

The project manager must try to obtain broad support from the business community, making sure that more than one person has a strong interest in the success of the project. The project manager should consider forming an advisory committee of high-level managers to provide stable support for the project and keep them well informed through regular meetings and communication.

Douglas Hackney

First, the project manager should focus on group-level pain rather than individual-level pain. Second, he or she should have a fully detailed scope statement in place with the data warehouse steering committee. This ensures that the directions and deliverables of the project will outlast any single individual. Third, the project manager should deliver incremental solutions based on a very tight scope, keeping the project time lines in the range of 60–120 days. This affords maximum flexibility as the business changes directions in response to the changing personalities.

Chuck Kelley

In this case, at all times it will be important to have more than one data warehouse champion within the management group. As the organization dynamically changes, it is the job of the project manager and the remaining data warehouse champions to make sure they find new champions. Spending a large amount of time with the new members of the management team, whether they become new champions or not, helps continue the project's growth and expansion.

David Marco

It is important to make sure that the data warehouse will provide value to the front-line workers of the organization, as opposed to executive reporting. Since the sponsor will be leaving, the project manager must make sure that funding is set for the duration of the project.

Larissa Moss

The most solid justification for a data warehouse project is not a corporate sponsor but a business problem that needs a data warehouse solution. Having a strong sponsor to champion the data warehouse initiative is certainly crucial to its success, but without a strong business justification the risk of having a data warehouse project cancelled is even higher. The project manager should perform a business case assessment and prepare a data warehouse justification and cost/benefit document that will outlast the current sponsor. The project manager needs to solicit buy-in from the CEO and other business executives to ensure that a new sponsor will not be able to cancel the data warehouse project.

Clay Rehm

The project manager must prepare for the worst: that the sponsor will leave. This advice holds true for any project manager, even in the instance of a seemingly static and stable sponsor—the sponsor could leave unexpectedly.

If the project manager doesn't have a well-documented data warehouse, he or she must start the documentation immediately. It is preferable to document the business problem(s), scope, and requirements in writing before the sponsor leaves. Additionally, before the sponsor leaves, the project manager should get written approval on all the documentation and store the documentation in a safe place.

The point of having solid documentation is that the project manager can present the purpose, goals, challenges, and benefits of the data warehouse project to anyone at anytime. Managing a data warehouse is difficult enough, and documenting the decisions, architecture, and processes is a quick win/win strategy.

Documentation should be written in a style that nontechnical folks can read easily. This means the documentation and presentations must have an "executive summary" and also provide necessary details. The nontechnical people won't read the technical details, but plenty of other folks will.

In summary: The data warehouse project definition, scope, and requirements should be very well documented.

IT IS THE ASSASSIN

The business brought in a competent data warehouse consulting organization to deliver a specific data warehouse application. The cooperation of the IT staff is necessary to build and support the data warehouse infrastructure and to supply the source data. The CIO saw the data warehouse initiative as a challenge to her position and authority and is taking every opportunity to undermine the consultant and the project. What should the consultant do?

Sid Adelman

The consultant must have an important meeting with the business sponsor. Important meetings differ from casual or regular meetings; the consultant should let the sponsor know this meeting is crucial. In the meeting, the consultant should explain the situation to the business sponsor—that without the cooperation of IT, the project will fail. The consultant should also get input from the business sponsor. The business sponsor knows the organization, knows the CIO, and should also be able to help in getting cooperation from the CIO.

Joyce Bischoff

The consultant should go to the business sponsor and ask her or him to work with the CIO on behalf of the project. If possible, the CIO should be a cosponsor of the project. It is unlikely that the CIO will cooperate unless there is a possibility that she will get credit for the implementation.

Douglas Hackney

The consultant should escalate the issue immediately to the highest-level business stakeholders, ideally the CEO and the board of directors. If the cooperation of the CIO and the IT organization cannot be gained, then the consultant should resign the account.

Sean Ivoghli

The consultant should make sure the business sponsor knows what is happening. Saving relevant correspondence and proof of sabotage in a situation like this can protect the consultant from blame. The consultant must not make a frontal assault on the IT team members—they have more power than may be obvious. After all, the consultant is only a visitor in that company and thus should do his or her best to adopt the standards

of the IT staffers and to make them feel comfortable that the system will be maintainable. The consultant should allow IT to participate enough to feel involved but not enough to hurt the consultant. He or she should even give the IT staffers some credit for some of his or her accomplishments but not enough to undermine the consultant. If he or she can win the friendship or approval of the IT staffers, great. If not, the consultant should take comfort that he or she is not alone in this situation. No matter what, the consultant should do his or her best to deliver and should not be discouraged. That's the best way to win the IT staffers' trust.

Chuck Kelley

The consulting organization needs to keep a strict record of what was requested, the date promised, who promised it, and the actual delivery. Documentation is critical for the success of this project and the consulting organization's reputation. The consulting organization's management needs to work with the CIO to make sure she understands that the organization is not working on the project to threaten her position but to help strengthen it. This occurs by providing expertise in an area where her team may not be as strong as the consulting organization and by encouraging the desire of the consulting team to work with her IT group as partners.

David Marco

It is critical to document each and every problem that occurs in the project. The consultant needs to take this problem log to the business sponsor to show him or her what is occurring on the project. Hopefully the business sponsor can meet with the CIO and convince her that if they work together, the end project will be a victory for both of them.

Clay Rehm

The consultant should immediately do two things about this situation.

1. Tell the business sponsor what's happening.
2. Work proactively with the CIO to win her over as an ally.

The consultant needs to tell the business sponsor (verbally and in writing) about the situation as soon as he or she identifies this threat. Why? After a few weeks or months on the project, the consultant may get blamed for something he or she did not do or something that may harm the consultant's image. It is also important for the consultant to tell the sponsor that he or she will work immediately to resolve the problem.

The consultant also needs to get the CIO to become an ally. This is a challenge, perhaps an impossible one. If she is smart, she will know what the consultant is doing. The consultant must communicate honestly and face-to-face, not only through e-mails. If his or her personality makes it easy to talk honestly with people, he or she will be much further ahead!

The consultant should try to make friends with the CIO while minimizing her feelings of suspicion. The consultant could initiate a discussion with the CIO immediately and be open and honest with her: "I understand and can appreciate your feelings about a possible threat to your career, but I wish you no harm. I only want to advance your career as well as the careers of others involved with this project."

The consultant must find a way to include the CIO in the project. She could lead or participate in a new data warehouse advisory group or technical advisory group. The consultant must involve the CIO quickly, getting her to see the benefits and challenges of her involvement as soon as possible. Throughout the course of the project, the consultant should make sure to ask the CIO's advice on different topics. If it is sound advice, the consultant should use it and make reference to her as the source.

A data warehouse project is difficult enough without the presence of powerful internal resources trying to undermine it. Resolution of this situation requires swift action, great communication skills, tact, professionalism, and honesty.

THE PILOT MUST BE PERFECT

Management thinks the data warehouse implementation must be perfect; as a result, the scheduled implementation date has already passed. The managers expect the quality assurance (QA) on the pilot to be at the same level as that of a production system. What can the project management team do to convince management that a pilot system and a production system should have different levels of QA?

Sid Adelman

A pilot is the first version of the data warehouse application that uses real data that has been understood, documented, properly selected, cleansed, transformed, and summarized. It takes more time to create a pilot than a

prototype, but when the pilot is complete, the organization has something meaningful and useful. If done properly, the pilot is not a throw-away project; it can be expanded and enhanced. For example, the number and types of users can be expanded. The pilot data warehouse can incorporate additional data entities, attributes, subject areas, and historical data for trend analysis and can begin to incorporate external data.

However, since some of the benefits of a pilot are that it takes less time to implement and provides a learning experience for the organization, some mistakes will occur. The deliverable will not have the same robustness as a production system. The organization, including the QA team, should understand the purpose of a pilot and not hold the pilot system to the same standards as a production system.

Joyce Bischoff

Although the testing of a pilot system should have a high level of QA, the emphasis while testing a data warehouse implementation is on data quality and availability. In an operational environment, data quality and availability are still important, but there is more emphasis on front-end programs and their accuracy. Education about these differences and their implications for QA is the key to success.

Douglas Hackney

In this situation, working with someone who has IT experience as a manager (or, at a minimum, as an IT project liaison) is invaluable. The project management team should seek out someone who has this type of experience in the business organization and request to have this person appointed as the primary liaison between the data warehouse project and the business stakeholders. This person is more likely to understand the differences between the pilot level implementation and a production release. Failing this, the project management team should make a presentation to the data warehouse steering committee specifically addressing the differences between a pilot and a production release system. The team must be very specific in requests for deliverables, capabilities, and time lines.

Chuck Kelley

The project leader needs to spend time with management to show that the goal is perfection, but the reality is that a pilot rarely allows enough

time for a common understanding of the data requirements now or in the future. The smart approach is to get data in front of the business users in order to get quality feedback during this pilot phase. Letting the business leaders see the data allows them to think in ways they may not have thought before. Until this occurs, the requirements will not be genuine. During the pilot, there will be feedback that discusses why certain measurements are calculated a certain way, which is going to help improve the quality of the whole data warehouse that eventually gets delivered.

Larissa Moss

The data warehouse manager should explain to management and the QA team the software release concept and how it applies to data warehouses. Operational systems and traditional decision support systems used to be built as silos with definitive start and end dates. Once these systems were implemented in production, the only changes applied to them by the maintenance staff were program fixes and a few minor enhancements. A data warehouse is different. It is not a system in and of itself but an environment of many integrated and reconciled databases and applications. This environment cannot be built like a big-bang delivery with definitive start and end dates but must evolve over time. That means that not only will fixes and minor enhancements be applied to this environment but also major new functionality and data will be added over time.

This concept can also apply to individual data warehouse applications, that is, they too can be developed and rolled out iteratively (the first iteration being the pilot). Therefore, the data warehouse team will have ample opportunities to correct any quality problems that slipped through the cracks. The motto of “just enough” may not be appropriate for an operational production system, which is not meant to be reworked, but it is quite appropriate for a data warehouse, especially when it is only a pilot. This does not mean that the team should ignore quality completely, but the team must balance quality with the other constraints of scope, time, resources, and money.

Bottom line: As long as the users and the data warehouse team understand that the data warehouse databases and applications will be revisited and revised as a matter of policy and approach, quality does not have to be 100 percent from the start.

Clay Rehm

The data warehouse team should always strive for perfection, even if the scheduled implementation date slips a little. However, testing a pilot does not require the depth, documentation, and complexity that testing a production system does.

Pilot is another term for *proof-of-concept* or *prototype*. All three terms presume an incomplete system. *Webster's Ninth New Collegiate Dictionary* gives the relevant definition of *pilot* as "serving as an experimental or trial undertaking prior to full-scale operation or use." With that in mind, the pilot is an experiment meant to prove a point or to determine whether the project is worth pursuing.

It is wise to recommend to management that since minimal effort was given to the analysis, design, and development of the pilot, it would indeed be a waste of time, money, and effort to thoroughly test the pilot.

The moral of the story: A pilot is a quick, easy, and inexpensive way to prove a point.

USER DEPARTMENTS DON'T WANT TO SHARE DATA

The feeling seems to be—no one actually says this aloud—"By giving another department access to our data, we will be giving them the ability to criticize us or even take over our jobs." Department heads sometimes give lip service to the idea of sharing data, but in the case of the data in their department, they maintain that no other group has the expertise to accurately analyze their data. They want to be in control of who sees what data and when. How can the data warehouse team get department heads to share access to their data?

Sid Adelman

The data warehouse team may not be able to get department managers to share data. They often do not want anyone to see their data for fear that the department may be exposed to criticism or be micromanaged. The departments heads often want to explain their results or put their own spin on the measurements before others review the data. Few organizations have real data sharing. It happens only in the rare circumstances when the CEO makes clear that everyone must share data and cannot

hold anything back. Some organizations do not have the internal politics that impede sharing; however, I have seen only one such organization during my career.

Joyce Bischoff

This situation requires a change in the corporate culture, which may not be easy to effect. The emphasis on teamwork and data sharing must come from the executive ranks. If executives are serious about data sharing, they should address this issue during personnel evaluations.

Jill Dyché

Ahhh. A corporate culture that doesn't encourage business accountability. I hear the question, "Who should own the data?" all too frequently. The fact is, while the business should define the successful use of data, it's the company that owns the data, not one individual organization. People tend to forget for whom they work.

Unfortunately, since this situation is reflective not only of data management but also of cultural issues that represent a barrier to progress, it mandates executive involvement. The CIO should answer the question, "Is data a corporate asset at this company?"

Now, almost every CIO I've ever met answers this question in the affirmative. "Of course data is a corporate asset!" he or she replies while making a mental note to begin describing data as a corporate asset. However, the follow-up question is a bit tougher: "Are you willing to treat data like you do your other corporate assets?" Yes, it's a loaded question that implies everything from solid business processes to structured governance to organizational change. CIOs usually don't answer this question as directly.

The CIO needs to be willing to institute a corporate data management group in charge of managing key enterprise information. (This group could be the existing data administration group.) This group ensures that corporate data is inventoried, that the systems of record are established, that key business rules are understood and socialized, and that departments, in exchange for relinquishing control over their data, get the information and support they need, when they need it.

If the CIO isn't willing to make this decision, then the departments should be left to fight it out until the business pain resulting from different

versions of the same data, varied business definitions, nonstandardized decision making, and even incomplete customer profiles becomes great enough to trigger action. Unfortunately, this might culminate in lost customers, reduced market share, and lower satisfaction scores. These are the prices the CIO will have to pay for not managing data as the corporate asset it should be.

Douglas Hackney

In order to gain buy-in for the sharing of information, the department heads and their constituencies must understand the value the organization as a whole will gain from the interchange, exchange, and open access to each department's data. It's very difficult to gain buy-in from powerful functional leaders in decentralized organizations without a clear mandate from the board of directors and the CEO. In these scenarios, the top-down approach is the most effective one for gaining cooperation from powerful constituencies since it requires a clear mandate from the top levels of the organization.

Chuck Kelley

Without a strong data warehouse champion or the backing of upper management, this is a difficult situation to solve. There must be a sense of ownership throughout the whole organization for the success of the data warehouse. Having members of each of the sources as members of the data warehouse team as a place to get the "right" expertise can help reduce, though not alleviate, the unwillingness to share data.

Larissa Moss

Building a data warehouse is a cross-organizational business initiative, and it is not up to the department heads to decide whether and how they will participate. In the scenario given here, either the business executives do not understand or support this concept or the message has not trickled down yet to the department heads. In either case the project manager is in no position to tell the department heads what they should or should not do. He or she can attempt to educate and persuade them, but that will probably have little effect on their attitudes.

A more effective approach is to make the business sponsor of the data warehouse project aware of the department heads' reluctance as soon as

their resistance impacts the project. Caution: Unless the project manager knows that the business sponsor also suspects there will be a problem with data sharing, the project manager should not act based solely on a “general feeling” or hearsay but should wait until he or she has hard evidence that the department heads refuse to cooperate. The sponsor must then take up this issue with the department heads or their superiors.

If the sponsor is either unwilling or unable (due to low rank within the organization) to resolve this business issue, the project manager could bring this problem to the CIO’s attention. However, it is doubtful that the CIO would have any influence over the department heads unless the CIO takes this issue to other chief officers (CEO, CFO, COO), who then enforce cooperation. This scenario will work only if the business executives understand and support the data warehouse as a cross-organizational business initiative. If they don’t, the project manager would be better off switching to another project because this situation will not get resolved in the near future.

Clay Rehm

It’s easy to think that anytime you provide your data to additional people, you increase your chances of criticism. However, the data warehouse team should encourage the department heads to use a different perspective: to believe that when outsiders view the data, they will be able to see problems as well as opportunities that the department heads may not see.

The department heads need to have a good reason to share data with outsiders. The benefits for the whole organization may be difficult to see from the perspective of a small department.

If the department heads don’t share the data, they will limit the company’s opportunities for growth and the possibilities of identifying any data anomalies. Department heads must become “thick skinned” to handle the criticisms, knowing that good can come from it. Sometimes you have to take the good with the bad.

SENIOR MANAGEMENT DOESN’T KNOW WHAT THE DATA WAREHOUSE TEAM DOES

A newly built data warehouse meets almost all the measures of success. The response from upper management has been lukewarm. It seems

management does not recognize the success of the project. What should the data warehouse team do?

Joyce Bischoff

What were the measures of success? Does the business sponsor consider it a success? In fact, was there a business sponsor or was it an IT project? If it was an IT project, it may be difficult if not impossible to prove that it was successful.

The data warehouse team should conduct surveys of managers and users to identify the business benefits of the data warehouse. Team members should interview key people. Although managers may not actually use the warehouse directly, their employees probably provide them information from the data warehouse, and the team can determine the effectiveness of the warehouse from that point of view. Team members should ask managers such questions as those listed below.

- Do you use or receive information from the data warehouse?
- Have you personally benefited from the warehouse in terms of improved decision making, better productivity, identification of potential business opportunities, and so on?

The team should also consider sending a questionnaire to all users regarding their opinions of the warehouse. It is rare to receive more than a 30 percent response rate on questionnaires, so it is important to conduct interviews to be sure to obtain a more complete perspective. Team members should ask users such questions as those listed below.

- How often do you use the warehouse?
- Do you consider yourself to be a novice user, a moderately experienced user, or a very experienced user?
- Which end-user tools do you use?
- On a scale of 1–5, where 5 is high, how satisfied are you with the following aspects of the data warehouse?
 - Overall performance
 - Ease of understanding the data design
 - Ease of understanding the data
 - Usability of the data
 - Accuracy of the data

- Availability of the data
- Effectiveness of the end-user tools
- Standard reports and queries
- Query and reporting tools
- Help desk support
- Availability of user training
- Quality of user training
- Process for communicating changes to the upcoming production schedule
- Responses to requests for additions or changes to the warehouse

The team members should always ask for free-form comments, which provide valuable information that might not have been adequately covered in the general questions. After assessing the results of the interviews and questionnaires, the team can more easily document the success and/or possible points in need of improvement.

Jill Dyché

Senior management doesn't care about whether a data warehouse has met its success metrics. Senior management cares about whether the data warehouse saved or earned the company more money than it cost. In other words, it's all about the bottom line.

The question here is not "Why doesn't senior management care?" as much as "Is it really important for senior management to care?" If the end-users are using the data warehouse for critical business functions, if they are helping to fund it, and if those sponsoring the data warehouse agree that it has done its job, then perhaps the data warehouse has proven all it needs to prove.

However, if senior management has begun to ask questions—the proverbial "How has this data warehouse benefited us?" belongs in the Data Warehouse Hall of Fame—then it's time to pull out the pre-facto ROI estimates made during the construction of the data warehouse business case and back them up with hard numbers.

No ROI estimates? No hard numbers? Then it's back to the end-users to help the team corroborate both the tangible and intangible benefits of consolidated, clean, and meaningful business data. Perhaps the data

warehouse has meant more inventory turns per year. Perhaps it has reduced staff data-gathering time by 95 percent. Perhaps it replaced a dozen departmental servers, saving the company \$1.2 million in licensing fees.

If the data warehouse has done its job, the users should be able to sing its praises. And if it hasn't, senior management is the least of the data warehouse team's worries. The business users aren't happy. The team should be afraid.

Douglas Hackney

In this common example, the measures of success for the data warehouse were tied to technological goals or IT goals rather than the goals and values of the business. It is critical that success measures be defined between the business and the team prior to implementation of the system. In a case such as this where the measures of success are unimportant to the business, the system will continue to be viewed as marginal until capabilities are added that are meaningful to and measurable by the business.

Chuck Kelley

The data warehouse team needs to spend time with senior management doing "dog and pony" shows (including bits on the corporate Web site and in any newsletters) to show how the data warehouse has been successful. It would not be a surprise to me, however, if senior management would not feel excited about the system unless they could see the real benefit (ROI in real dollars) of the data warehouse. Anything that shows the ROI would increase the recognition of the project's success.

David Marco

Marketing a data warehouse project can be as important as the physical implementation. Remember, perception becomes reality. If management perceives that the data warehouse has not been valuable, it could spell trouble for the future of the team.

The data warehouse team needs to document the measures of success and get the business users, especially the sponsor, to support these findings. The data warehouse team then needs to take this information, preferably with the business sponsor, to management to present the success of the data warehousing initiative.

Larissa Moss

Management does not seem to perceive any business problems that needed a data warehouse solution, and the success factors by which the data warehouse team measured its success must not have been business factors. It is possible that the IT department and/or a lone-ranger business sponsor of low rank saw a business need and built a data warehouse in the hope that the users would come around. Most likely, the team performed no business case assessment, prepared no cost justification, and obtained no management buy-in. The IT team members must now prepare and present their business case to management, showing the business pain in dollars and cents and demonstrating how the data warehouse is solving that pain. It may be too little too late, but without buy-in from management this data warehouse has no future.

Clay Rehm

Assuming the data warehouse is meeting the needs of the people who really need it, assuming they are using it, and assuming it is providing ease of use and accessibility to data that was not accomplished before, the data warehouse team has no choice but to enlist the marketing expertise of the business users. It is critical that the users market and present the benefits and success of the data warehouse.

Instead of doing something dry and boring, the business users can put on an “expo” that spotlights all the benefits of the data warehouse, including enhanced technology, beneficial changes to business processes and organizational change management, and improved availability of data. This can be accomplished through demonstrations of the data delivery interface.

If the users don’t like that idea, why not take the presentation on the road? A road show is a great way to expose a product to many people in the organization.

If there is a company intranet site, the team can put a blurb on the home page about the new data warehouse and the road show and/or education schedule.

These methods should specifically target upper management, even taking into account what format best holds their interest. Do they like expos, demos, road shows, intranet education, paper handouts?