

The Project Advisor

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Our Global Partners' Column: Q & A About Managing Large Projects

Each issue, one of our global Project Advisory Services partners presents project management insights related to developments in the marketplace. Our featured partner this quarter is Alfredo Sneyers, a PwC Partner in São Paulo, Brazil. The following is an excerpt from a recent interview with Señor Sneyers.

Q. What is your background?

A. I have over 25 years of experience, including 18 in my native Spain, two years in the USA, and five years now in Brazil. In São Paulo, I am the lead GRMS partner within our Brazilian firm.

My main expertise is in project management within the technology, information, communications and entertainment sector, as well as the utilities and energy sector. I manage nine partners and 250 professionals, and our practice here has become extremely successful in the specialised field of business projects.

Q. How strong is PricewaterhouseCoopers in Brazil?

A. PwC has been present in South and Central America since 1913. Currently, we have 44 offices in 16 countries, with more than 10,000 professionals and partners. In Brazil alone, there are 13 offices and more than 2,500 staff and partners.

Throughout Brazil, we operate a Business Project Services Practice (BPS) that includes a number of certified Project Management Professionals (PMP).

Q. What type of projects are you currently managing?

A. We are currently involved with two very large projects: one with Petrobras, an oil and gas company headquartered in Rio de Janeiro, Brazil, with the largest pipeline network in South America; the other with Sabesp, São Paulo, Brazil, the leading water and sewage utility of this country. Both of these are ongoing, multi-year projects and both presented us with unique project management challenges.

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Q. Why did Petrobras hire PricewaterhouseCoopers?

A. They needed to put their project in place very quickly and we have the necessary oil and gas expertise, project management experience, and a proactive risk management approach. We had project managers on board and we had a strong reputation in Brazil as a company you could trust.

Q. What problems did PricewaterhouseCoopers have to solve with the oil company?

A. In 2000, Petrobras was having a major problem with oil leakage along its 15,000 km pipeline network. Pressure was mounting from multiple stakeholders to address this issue. Over the last three years, Petrobras has invested more than \$1 billion US dollars to alleviate this problem.



In the last three years, PwC has been developing project management and support services for several compliance programs established by Petrobras. We support them in adopting program management mechanisms by offering support services in the areas of planning, organisation and communication, as well as technical reviews required to measure the development of programs and to verify the actual level of achieving pre-established objectives. Our actions are focused on program planning, organisation, communication and monitoring.

PricewaterhouseCoopers helped Petrobras create a Pipeline Structural Integrity Compliance program to identify the priority pipelines, inspect them, implement a rehabilitation program, create compliance standards, institute a sustainability program, and more for this massive project.

Q. How is this Petrobras project progressing?

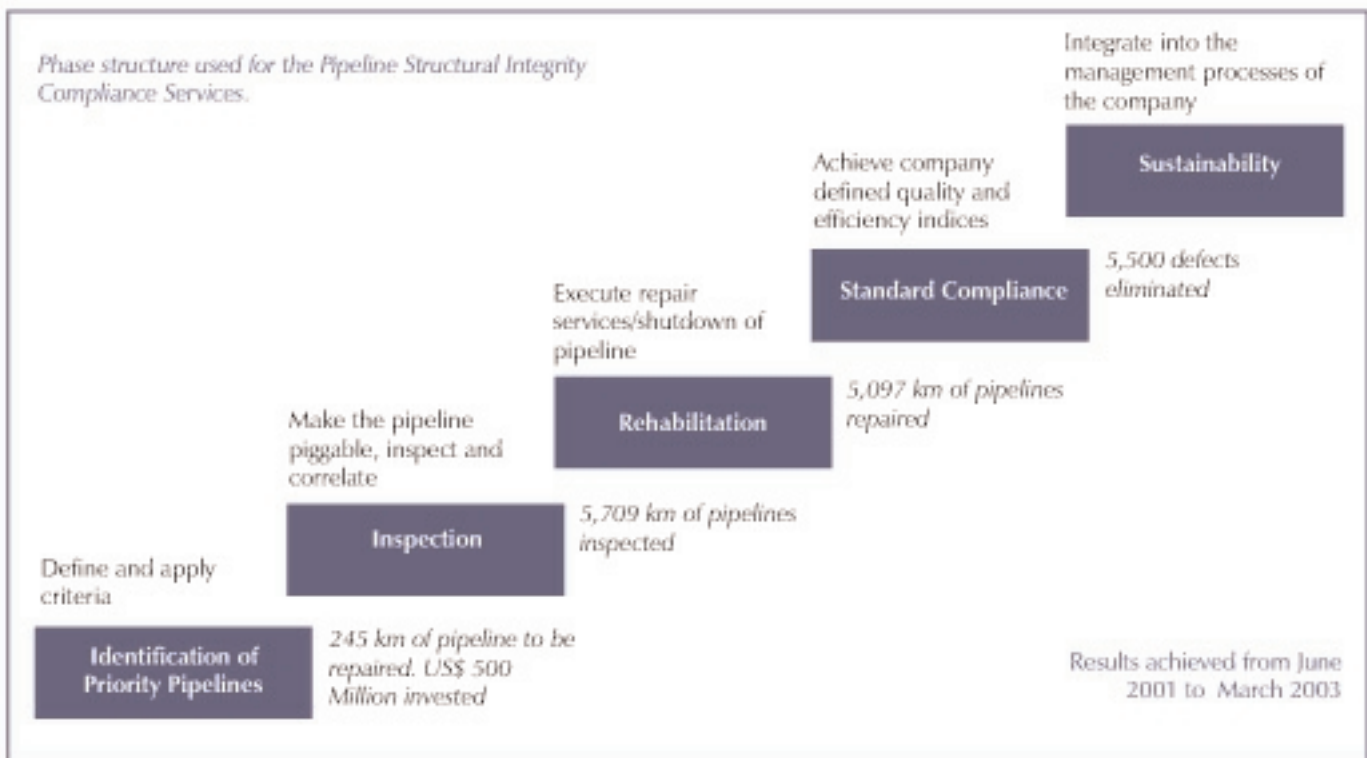
A. The evaluation and re-establishing pipeline integrity phases of this project are complete. The other two phases — establishing conformity with the Standard of Pipeline Integrity and Integrity Sustainability — are still ongoing.

The chart below displays the Pipeline Structure Integrity Compliance project.

Q. How successful is the Petrobras project?

A. Since June 2001, the project has seen a 98% reduction in total volume leakage. In fact, the project is so successful that PwC created a 35-page book with Petrobras to showcase the

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project. The experience has been shared at several international pipeline events.

The Petrobras manager responsible for this program says: "The success of this program is directly associated to the efficiency of its management and technical knowledge. The Program for Pipeline Integrity, implanted by Petrobras, utilised this principle to develop an efficient, effective, fast and sustainable standardisation adopting the synergy of two poles of knowledge:

PricewaterhouseCoopers —
Excellence in Management
Practices, and Petrobras —

Excellence in Technology. Synergy was an important aspect of our success."

We became involved with this public utility a year ago. We won the project based on our experiences with similar large public sector projects. We also needed very senior experience in water and sewage management, so we brought in engineering experience as well. Finally, given the amount of change management in this project, we have brought some team members from our Global Human Resources Solutions.

Q. What is the other large project?

A. It's a very important project for Sabesp, the water and sewage authority in São Paulo, Brazil. We are in a consortium with an engineering firm (Soltec) for the project management of the implementation of a Geographic Information System that will affect the 25 million people living in São Paulo.

The overall project is financed by the Inter – American Development Bank and the BNDES – National Bank of Economic and Social Development.

The main objectives of this project are to:

- Improve the quality of the services rendered to clients and consumers of Sabesp.
- Increase the understanding and efficiency of the administration of the physical infrastructure of Sabesp by creating an adequate information repository for listing and viewing urban physical infrastructure and networks (water/sewerage), commercial and operational data, as well as external information (social-demographic/other concessionaires).
- Incorporate the network management activities into the information structure of Sabesp and make effective tools available for analysis and decision support in order to add value to the data by its transformation into information and knowledge.

Q. How far along are you with the Sabesp project?

A. This is a two-year project. But we have now successfully completed more than half of it. The expected end date is October 2004.

The project phases include:

- Development of the Geographic Information System;
- Implementation of the GIS in the municipality of São Paulo; and

- Implementation of the GIS in other municipalities.

The implementation of the GIS at Sabesp is a challenge because it implements a high degree of change in the activities related to the management of the network of water and sewage, while also offering effective tools of analysis and decision support. In this context, PwC and Soltec, which participates in this project, use PricewaterhouseCoopers' Project Office V2 methodology to guarantee deadlines, costs and quality.

The Director responsible for this project at Sabesp says, "The

consortium of PwC/Soltec supports Sabesp in the adoption of mechanisms for project management, offering support for planning and monitoring, communications management, risk management, support in the controls of contracts, quality control, change management, and technical and technological support."

Q. How are these two large projects different in scope?

A. For Petrobras, we're bringing together our Project Office skills and our expertise in environmental change, both of which were key in our winning this engagement. Also, we are viewed as an independent and trusted organisation, which was critical for the company in meeting stakeholder environmental demands and concerns around its activities

For Sabesp, we have deep project management skills, but also hired engineers because of the engineering aspect of this project. We have very impressive credentials in implementing geographic information systems. We are overseeing the project management, the implementation of the new technology, the conversion of the data, and the required change management.

For both projects, PwC is able to bring our strength in Sustainability Solutions, including Environmental Change, Regulatory Development, Verification and Certification.

For More Information...

To read more about the Program Management of Pipeline Structural Integrity Project, download this 35-page brochure .

To read more about the Project Management of the Geographic Information System at Sabesp, download this 60-page book created by PwC together with Soltec and Sabesp to showcase the project.

If you have any questions about Project Advisory Services and managing large projects, please contact:

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Project Management Case Study: What We Did For a Regulatory Compliance Project

Description of Client's Business

The client is a Retail and Corporate Bank in Germany, with subsidiaries and offices worldwide. It specialises in car leasing and financing.



The Client's Challenge

"The client had previous unconstructive experiences with large projects and knew the risks it faced with a regulatory compliance project," says Marc Grohall, Senior Consultant/Associate, PricewaterhouseCoopers in Frankfurt, Germany. "For one year, the organisation had been working on aspects of the regulatory compliance project but hadn't made sufficient progress. They didn't reach their goal because they didn't have an approved process, support of the stakeholders, or approval from the senior management. Overall, there just wasn't an effective project support office."

"This project is essentially to help this client comply with the Basel Committee on Banking Supervision's New Accord — also known as Basel II," adds Grohall. "It encompasses every department and subsidiary of the bank, involving lots of people in dozens of countries. To compound the problem, the client has large teams existing in silos that weren't communicating well with other groups."

The bank managers were looking for a company with expertise who could help them through the process. "They needed a firm with experience in project management, with knowledge of quality assurance, with the ability to manage both internationally and cross-culturally, and with deep Basel Committee experience," continues Grohall. "They knew of PricewaterhouseCoopers and asked if we could do it."

PwC's challenge was to help the client effectively comply with Basel II Accord regulatory requirements by December 2006.

The PricewaterhouseCoopers Solution

PwC first developed a team to manage the regulatory compliance project. Key staff included: Ullrich Hartmann,

Manager; Matthias Weiß, Senior Associate; and Marc Grohall, Senior Consultant. The engagement is lead by a partner team of Armin Schlüter, Günter Borgel, Cristof Menzies and Peter Kleinschmidt.

"The demands around this evolving regulation required specialist involvement," adds Grohall. "New techniques, processes and systems for risk management — including controlling and regulatory reporting — had to be developed. Because the client had unfortunate experiences with projects and

outcomes in the past, we knew this project had to kick off correctly. We started by making a plan for the planning, because 'Impact Analyses, Strategy Outline and Planning' are the first phases of any project."

Also, since this project was relevant to all parts of the company in Germany, as well as in all of its subsidiaries worldwide, teams in all countries had to be coordinated. Impact to all departments, from Sales and Internal Control to Accounting and Product Development, had to be measured.

PwC has brought structure to the project with clearly defined goals, activities and responsibilities. This structure removes the "ad hoc" element that may have plagued the project initially. We are supporting the work of the project manager as well as the sub-projects, including:

- Creating a master plan and a detailed project plan;
- Preparing and moderating meetings;
- Writing minutes, composing status reports and documenting decisions;
- Overseeing advice during daily sessions with the project manager, concerning what to do next, reviewing what the results should be, resolving issues, and discussing current status;
- Managing the collection and evaluating data concerning progress, schedules, milestones, and budget;
- Developing suggestions for the project leader on what to do next;
- Drafting presentations for steering committee or board meetings; and
- Managing the communication plan to all project members.

"We are now close to finishing the detailed planning and

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conceptual phase of the engagement,” says Grohall. “Basically, all aspects of overall plan are supported by the project office function, including impact analyses and project strategy, planning and scheduling, as well as project and resource planning.”

Next, PwC will work on the execution and realisation, which will start by completion of Phase Two of the project by March 2004. This phase will include such critical factors such as:

- Change Management;
- Dependency Management;
- Assumption Management;
- Communication;
- Stakeholder Management;
- Risk Management;
- Issue Management;
- Scope Management;
- Quality Management; and
- Document Management.

“This is the longest project in terms of time that I have managed,” says Grohall. “But we are keeping the project on track and this reflects our experience with extensive projects – both in terms of scope and time. If you take a book about project management, you can read through the techniques. However, you will always need someone who has applied these techniques to really make them work.”

Benefits/Results to the Client

“Based on the project’s progress so far, the client is no longer overanxious,” concludes Grohall. “We’re making progress and the first hurdle was overcome in May 2003 when we completed the initial documentation for the entire Basel II compliance project.”

“Today, we have steering committee meetings, clear documentation on decisions to date, and decisions that have to be made going forward. The client is very happy that the project has made visible progress and we have reached our initial goals.”

“We still have a challenge because of their team members who are trying to juggle their continual daily responsibilities as well as these new project demands. But we are confident that we will continue to hit our milestones to keep the project on track. We have monthly quality checks to determine if we



have overlooked any details. And we keep asking ourselves, ‘What do we have to do to keep everyone and everything on track?’”

For More Information

To learn more about regulatory compliance for Basel II projects or other large scale projects, please contact:

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A Top Ten List of Key Risks to Project Acceptance

Many of the risks to a successful project occur repeatedly – not only in the same organisation but also with similar problems that seem to plague projects in all organisations. Peter van der Heijden, a senior with our Project Advisory Services in the Netherlands, has developed a checklist of common project risks, probable causes and mitigation factors.

In this article we focus on his “top ten” causes for poor project acceptance. For many of these risks, prior planning can help mitigate their impact on your project.

“This matrix is the result of my experiences within several projects including implementing systems and procedures, setting up PC infrastructures, and various project audits,” Peter notes. “In working with multiple organisations and in discussion with other colleagues in Belgium and the Netherlands, we noted that these risks repeatedly affect projects – even though these issues are well known and are commonly discussed in most project management literature.”

Peter’s advice: Whether you are embarking on a \$1,000 or a \$1 million dollar project, working through the risk checklist and taking basic “best practice” processes to mitigate risks will pay-off with increased project acceptance.

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Project Risk - No Acceptance By Organisation

Possible causes	Mitigating measures	Possible causes	Mitigating measures
1. Project goals do not fit in organisational strategy	Verify that the project is aligned to the organisational strategy.	7. Dependencies not foreseen	All projects have dependencies with other projects or change processes in organisations. These dependencies should be defined up front. The planning stage is of critical importance. Also, the deliverables should be carefully verified up front if other projects are going to be produced in line with this project.
2. Project does not contribute to organisation	Every project should have an acceptable ("budgeted") return on investment. This should be clear in a business case accepted and approved by management before the project is initiated.	8. People are not prepared for the changes created by the project	People management is one of the important factors in change. There has to be a clear strategy on how to deal with this issue. A clear communication strategy has to be created to deal with the important stakeholders of the change, the target groups of people that have to change, what is going to change, what it means for the people involved, as well as their future work.
3. Project organisation is not adequate	Project organisation should secure organisational involvement, not only on the management level (Steering Group), but also on the lower levels. The way this can be arranged differs per organisation, but the result should be that the end-users of the project deliverables are involved substantially and feel responsible.	9. Hand-over from the project team to the broader organisation is not arranged	At the end of the project, a planning and methodology to establish the handover to the organisation should be confirmed. There has to be additional support, not only for systems, but also for organisational changes for the first period.
4. No communication plan to support the project	Every project should use a communication plan to make sure that all users and the broader organisation are informed about the project, its goals, and appropriate project updates. The communication plan should analyse the various target groups and make sure that each target group gets the appropriate message.	10. Project is not being supervised by senior management	For most projects, you want a senior project manager at the helm. That person can plan, direct, execute and make key decisions to affect a positive project outcome. That person must also be able to push back, challenge, creatively adjust and gain the respect of senior organisation management and other team leaders.
5. Organisation does not have effective change management processes in place	Before starting projects, the change capacity of the organisation should be assessed. The project should be managed in-line with this change capacity. Possible weak points should be identified.		
6. Organisational culture does not support projects	Not all organisations are accustomed to dealing with projects. This should be taken into account. If they are experienced with project management, then it should first be assessed how successful they usually are (track record). The project should be defined, taking into account this (or lack of) organisational experience.		

FindOut More

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What Are The Risks Associated With The Implementation Of A Project?

By Shirley Komoto and Ted Schaefer

This article is an extract from Business Driven Information Technology: Answers to 100 Critical Questions for Every Manager, (David R. Laube and Raymond F. Zammuto, editors, Stanford University Press, 2003.)

For more information on this publication, please visit, www.businessdrivenit.org.

Grouping risks into categories is one way to better understand project risks and allows for an equal comparison between different projects. Grouping risks also allows companies to identify the overall risk impact at an enterprise level. This grouping approach categorises risks into four levels:

- **Level 4 risks are enterprise-level events or initiatives** that can impact a project's outcome, such as a merger or acquisition, changing corporate priorities, or changes in leadership.
- **Level 3 risks are project dependencies within an organisation** that can have an influence on the project, such as resources that are shared across various projects or conflicting cross-functional priorities.
- * **Level 2 risks are external risks affecting the project.** An example would be equipment provided by a third party supplier that must be available at a specific time because a project's success is dependent on the timely



arrival and successful commissioning of that equipment.

- **Level 1 risk is inherent to a project.** These risks are related to aspects of the project that cannot be changed without affecting its scope, such as the scale and complexity of the project, the team's experience with the technology, and the project's structure. Simply put, the greater the complexity, size, and uniqueness of the project and the more it relies on unproven technology, the greater its risk. These risks are outlined in the

sections below.

Project Scale and Complexity

If the scale of the project is significantly greater than past projects undertaken, project risk increases. Applegate, McFarland and McKenney define several attributes that help management assess the size-related risks of technology projects.¹ They include the:

- **Dollar size of the project** — multi-million dollar projects are more critical and obviously carry greater risk.
- **Duration** – projects longer than a year carry more risk.
- **Project size relative to the organisation's experience**— a million dollar project being implemented in a unit that routinely handles million dollar projects has less risk compared to a unit that is doing its first million dollar project.
- **Numbers and types of staff and skills sets required** — the more staff, consultants and skill sets required, the greater a project's risk.
- **Number of departments and functional areas affected** — the more departments and functional areas impacted by a project, the greater its risk.

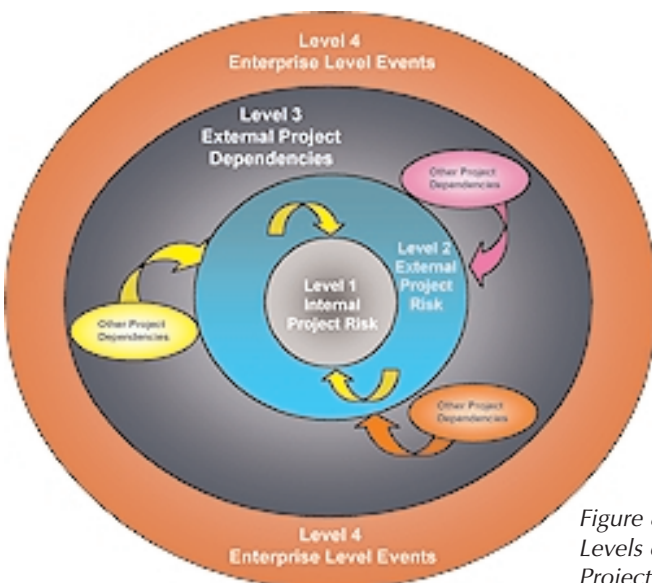


Figure 86.1
Levels of Project Risk

The risk of implementation failure also increases with the complexity of the technology being implemented. Complex technologies require more changes to an organisation's hardware, software and networks, which increase the risk of failure. The more mature a technology solution is, the fewer the problems during the implementation. This is because anticipated benefits and technical requirements are clearly defined and stable, and customisations and enhancements are more easily controlled.

The maturity of an organisation's systems development process can reduce the extent to which these are significant risk factors. A mature development process reduces implementation risks generally and enables an organisation to take on more complex technology projects successfully.

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Mature systems development capabilities help a project avoid excessive change orders, costs and schedule delays.²

Experience with the Technology

Organisations and IT staff gain experience with technologies as they use them, making implementation of the same or similar technologies easier over time. When IT staff has had experience and training in the technologies and has had prior development and implementation experience, the risk is lower. When a new technology is adopted, the learning curve starts over. As a result, the more dissimilar a project's technology is from what is already in place, the higher the inherent risk.

Changes in a project's technology during the course of its implementation also increase risk. The less the technology solution is likely to change during the project, the lower the risk. Risks also can be reduced when anticipated benefits and technical requirements of a change are clearly defined and stable, customisations and enhancements are controlled, and change control procedures are in place.

Project Structure

A project's risk of failure is higher if:

- Standard project management methodology is not used,
- The project does not have effective executive sponsorship,
- The project's costs and benefits are not understood or defined,
- Inadequate or inappropriate personnel are assigned to the project,
- Key stakeholders (especially end-users) are not included in the team that defines the problem, and designs and implements the solution.

When evaluating a project's management and operations risks, consider the following:

- **Process and capability** — Are standard project management processes used? Is there a formal process to define, prioritise and fund projects? Is there a central project management office overseeing the project, especially for large and complex projects? A central project office can be an important tool in the complicated process of delivering a project because it can detect cross-functional problems earlier, facilitate communication and knowledge transfer, and be an independent channel to elevate difficult problems or decisions for executive action.
 - **Sponsorship** — Does the project have effective executive sponsorship? Effective executive sponsorship is critical to success of technology projects because executives set the standards for success and have the authority and influence to make the project happen. How do you get executives on board? To build executive support, the value of the project has to be

expressed as a value to the business, from the perspective of the executive whose support is being sought.

- **Financial** — Are there formal guidelines for estimating projects and accounting for project costs? Have project financial feasibility and return been thoroughly evaluated and has the cost of money been considered? Are there sufficient project financial controls in place as well as plans for contingencies?
- **Resources** — Are there sufficient dedicated resources with the right experience to get the job done in the time allowed? How are project turnover and resource conflicts addressed?
- **Project Clients** — Is there involvement and commitment by management and the project's end-users? Is there a communication process in place to inform, involve and seek input and buy-in from project stakeholders?

Reviewing the organisational environment in which the project will operate, the capabilities of the project team, management's commitment and support, the level of attention given to determining the project's feasibility and benefits, and the involvement of key stakeholders and end-users will provide information about the risks ahead.

Summary

Risks are fundamental to projects. Some risks can be prevented, others controlled. Each project will have its own set of risks, depending on the nature and complexity of the work. Good project management means that risks are identified at the start of a project, assessed for their potential impact and the likelihood of occurrence, and addressed. Defining, monitoring, and addressing the risks inherent in a project can provide early warning as to where problems may arise. Early warning provides room for action and can mean the difference between project success and failure.

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¹ Lynda M. Applegate, F. Warren McFarlan, and James L. McKenney, *Corporate Information Systems Management: Text and Cases*, 5th ed. (Boston: Irwin/McGraw-Hill, 1999).

² Steve McConnell, *Software Project Survival Guide* (Redmond: Microsoft Press, 1998).

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Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK Guide)* (Newtown Square: Project Management Institute, 2000).