Global Knowledge ™

Expert Reference Series of White Papers

Implementing ITIL Using the PMBOK Guide in Four Repeatable Steps

Implementing ITIL® using the PMBOK® Guide in Four Repeatable Steps

Lawrence Cooper, PMP, CPM, ITIL Service Manager

Introduction

> `Begin at the beginning,' the King said gravely, `and go on till you come to the end: then stop.'
> –Alice in Wonderland, Lewis Carroll[i]

So exactly where is the beginning and where is the end of an IT Service Management (ITSM) project? There may be many beginnings and many ends in implementing ITSM—depending on your approach. Implementing ITSM in any organization can be a daunting task at first glance. But once you understand that it can be done as a series of projects rather than just one big one, and when you combine the application of sound project management techniques, as defined in *A Guide Project Management Body of Knowledge* (PMBOK® Guide) from the Project Management Institute (PMI), with the power of the best practices for the key process areas and functions within the IT Infrastructure Library™ (ITIL), it will seem far less daunting.

This white paper starts by providing the reader with an overview of the PMBOK® Guide as well as the key process areas and functions within the IT Infrastructure Library. We then compare and contrast the two bodies of knowledge. Once we have set the foundation for discussion, we look at why many IT projects fail (not just ITSM ones), followed by delivery risk management. Using that construct, we provide the reader with a project roadmap to implementing IT Service Management based on ITIL. We conclude with what is required to support ITSM once implemented, including how project management has not only a role in continued ITSM success but is a necessary ingredient—when used in the right situations.

This white paper does not attempt to teach you either project management or ITIL, but rather to describe by example how implementing the ITIL framework can best be accomplished when done under the control of good project management practice.

PMBOK® Guide

While there are numerous project management methodologies around the world, the quintessential project management methodology in the North American marketplace is the PMBOK® Guide from the Project Management Institute.

Project management, in a general sense, is the discipline of defining and achieving targets while managing and optimizing the use of resources (time, money, people, materials, energy, space, etc). The utilization of project management practices has become essential for a business to deliver value and services. The PMBOK® Guide defines project management as "the application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder needs and expectations." The emphasis is on projects as a "temporary endeavor undertaken to create a unique product or service."

Within the PMBOK® Guide there are nine knowledge areas and 44 processes (see Figure 1: PMBOK® Guide Knowledge and Process Areas). These knowledge areas provide a set of best practices in Project Management that are industry and project agnostic. The PMBOK® Project Management processes are further divided into five process groups:

- Initiating
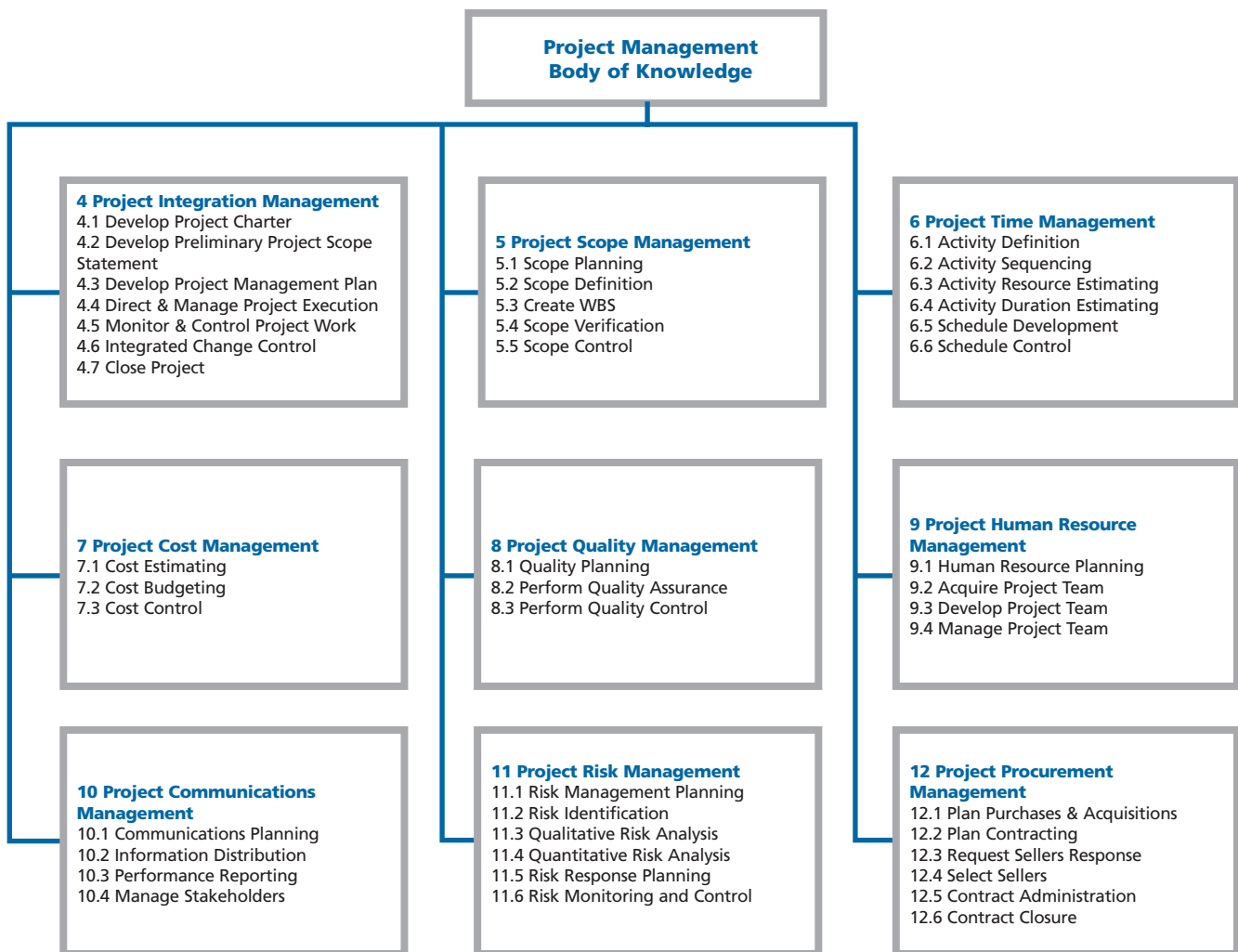- Planning
- Executing
- Monitoring and Controlling
- Closing

**Project Management
Body of Knowledge**

4 Project Integration Management
4.1 Develop Project Charter
4.2 Develop Preliminary Project Scope Statement
4.3 Develop Project Management Plan
4.4 Direct & Manage Project Execution
4.5 Monitor & Control Project Work
4.6 Integrated Change Control
4.7 Close Project

5 Project Scope Management
5.1 Scope Planning
5.2 Scope Definition
5.3 Create WBS
5.4 Scope Verification
5.5 Scope Control

6 Project Time Management
6.1 Activity Definition
6.2 Activity Sequencing
6.3 Activity Resource Estimating
6.4 Activity Duration Estimating
6.5 Schedule Development
6.6 Schedule Control

7 Project Cost Management
7.1 Cost Estimating
7.2 Cost Budgeting
7.3 Cost Control

8 Project Quality Management
8.1 Quality Planning
8.2 Perform Quality Assurance
8.3 Perform Quality Control

9 Project Human Resource Management
9.1 Human Resource Planning
9.2 Acquire Project Team
9.3 Develop Project Team
9.4 Manage Project Team

10 Project Communications Management
10.1 Communications Planning
10.2 Information Distribution
10.3 Performance Reporting
10.4 Manage Stakeholders

11 Project Risk Management
11.1 Risk Management Planning
11.2 Risk Identification
11.3 Qualitative Risk Analysis
11.4 Quantitative Risk Analysis
11.5 Risk Response Planning
11.6 Risk Monitoring and Control

12 Project Procurement Management
12.1 Plan Purchases & Acquisitions
12.2 Plan Contracting
12.3 Request Sellers Response
12.4 Select Sellers
12.5 Contract Administration
12.6 Contract Closure

Figure 1: PMBOK® Guide Knowledge and Process Areas

As noted, each PMBOK® Guide knowledge area includes several processes, each of which is designed to provide guidance on how to apply it to a real project. For example, Project Scope Management (5 in Figure 1) provides guidance on how to define the scope of your project, how to translate that scope into identified deliverables, how to define the work needed to create those deliverables (the Work Breakdown Structure), and how to verify that your scope is being met (neither under nor over scope) through scope control and verification.

IT Infrastructure Library (ITIL)

The Information Technology Infrastructure Library (ITIL) is a framework of best practices for quality IT Service Management; IT Service Management is defined as the delivery and support of IT services to meet the business needs of an organization. These procedures are vendor-independent and apply to all aspects of IT infrastructure. ITIL is made up of a collection of books that describe the different aspects of IT Service Management. The Service Support and Service Delivery manuals are viewed as the core of ITIL, which is built on a process-model view of controlling and managing operations.

The recommendations of ITIL were developed in the late 1980s by the United Kingdom Central Computer and Telecommunications Agency (CCTA), which later merged into the Office of Government Commerce (OGC). ITIL has been readily adopted and accepted as a global standard for IT Service Management since the mid-1990s.
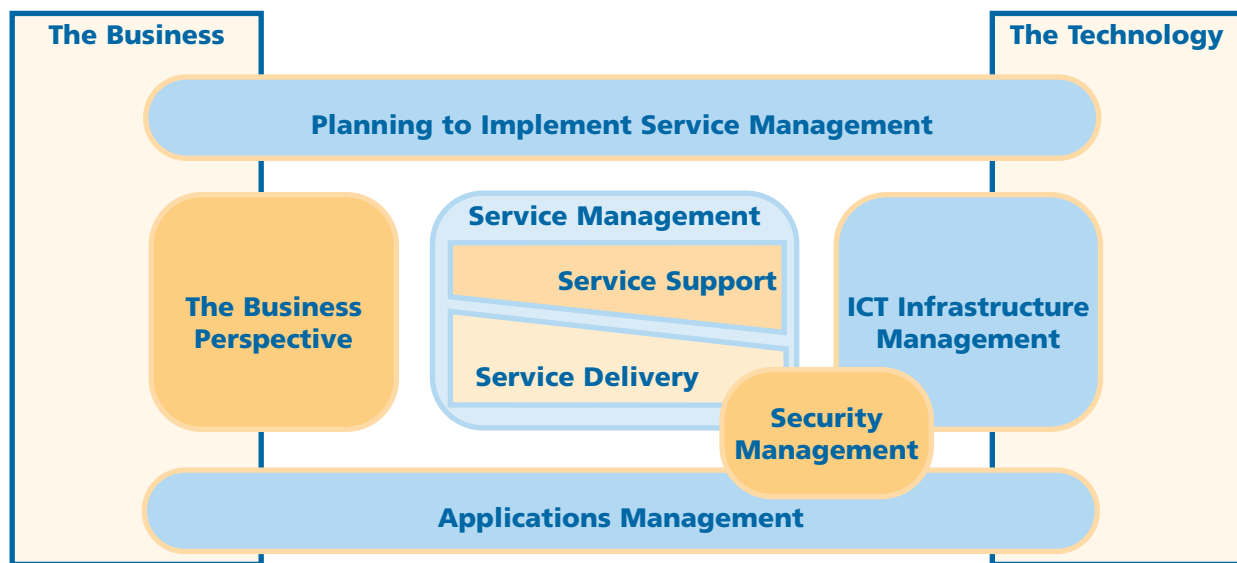

Figure 2: The ITIL Framework

The subjects of the individual books are referred to as sets. The sets are further divided into disciplines, each of which focuses on a specific subject. The ITIL sets and their disciplines are:

1. Service Support—stabilization of services:
- Service Desk
- Incident Management
- Problem Management
- Configuration Management

- Change Management
  - Release Management
2. **Service Delivery**—services that must be provided to the business:
  - Service Level Management
  - Availability Management
  - Capacity Management
  - IT Service Continuity Management
  - IT Financial Management
3. **Planning to Implement Service Management**—how to adopt ITIL; how an organization could benefit from ITIL and how to reap such benefits.
4. **Security Management**—how to manage security
5. **ICT Infrastructure Management**—processes, organization, and tools that are needed to provide a stable IT and communications infrastructure:
  - Network Service Management
  - Operations Management
  - Management of local processors
  - Computer installation and acceptance
  - Systems Management
6. **The Business Perspective**—how IT services relate to the requirements and operation of a business.
7. **Application Management**—how to manage the software development life cycle.
8. **Software Asset Management**—how to manage software assets

Project Management and ITIL – A BoK Comparison

The table below provides a side-by-side comparison of the Project Management and ITIL Bodies of Knowledge (BoK). As can be seen, they are similar in age (20+ years) and rely on the active involvement of practitioners to update them to reflect current best practice. They also share remarkably similar objectives. The key differentiators between them are that project management can be applied to any domain, whereas ITIL has application only within the IT domain. Also, the PMBOK® Guide contains a code of ethics for professional conduct that can result in suspension or loss of accreditation for ethical breeches, whereas ITIL does not.

While the PMBOK® Guide certainly has a wider sphere of influence and the Project Management Professional (PMP®) is a very widely recognized certification in the IT industry and elsewhere, the past several years have witnessed a strong surge in ITIL awareness and interest within the IT community.

IT Project Failures

Anyone who has ever worked on a very large IT project likely has experiences with massive project failure. Some of the more common causes are listed below:
  - Project timelines beyond 6–12 months generally result in a project going over budget and failure to deliver on the promised benefits—detailed project planning is hard to do beyond 6 months
  - Failed projects usually suffer from a lack of focus and momentum after about the 5-6 month mark
  - Poorly defined scope (and requirements) and scope creep because of unclear goals objectives
  - No change control system to handle scope changes
  - Lack of executive commitment and user interest due to the long timelines involved
  - Failure to communicate and act as a team
  - The wrong skills or not enough of the right skills

Comparative	ITIL	PMBOK® Guide
Publications	1. Service Support 2. Service Delivery 3. Planning to Implement Service Management 4. Application Management 5. ICT Management 6. Security Management 7. The Business Perspective 8. Software Asset Management	A Guide to the Project Management Body of Knowledge®, PMI, 2004
Emphasis	• Body of Knowledge (BoK) for Managing operations; on-going and repetitive	• Body of Knowledge (BoK) for managing projects that are a temporary endeavor
Maintenance of BoK	• OGC owns; maintenance through ITSMF and practitioners • First published in the 1980s	• PMI owns; maintenance through PMI and practitioners • First published in the 1980s
Objectives	• Make field of IT Service Management (ITSM) into a profession • Address points of pain in IT operations • Establish common language for ITSM • Descriptive rather than prescriptive • Improve IT process capability maturity	• Make field of project management into a profession • Address points of pain in delivering projects • Establish common language for Project Management • Descriptive rather than prescriptive
Certifications	• Foundation (entry level) • Practitioner (intermediate) • Service Manager (expert)	• Certified Associate (intermediate) • Project Management Professional (expert)
	Individual rather than organizational certification	
Ability to Sit Examination	• Examination for intermediate level and above requires accredited and approved coursework • Accreditation of Foundation Course • Providers assures quality of training coursework • Must meet in-course assessment requirements • Must meet relevant work experience	• Examination for all levels requires accredited and approved coursework • Must prove relevant work experience • Must meet education requirements
Similarities	• Both originated from empirical observation, were elevated to the conceptual, and are being re-applied to the practical • Both use notion of frameworks to organize and present concepts • Both recognize the importance of people and culture • Both have achieved global acceptance and have become *de facto* standards • Both are emerging professions • Both have been accepted as the embodiment of Best Practice in their respective disciplines • Management processes within each are tightly integrated and are their main value proposition	
Code of Ethics	• No	• Yes
Domains	• IT only	• Any domain

These project failures continue to this day because organizations fail to heed the lessons they should have learned by now. A project to implement ITIL is subject to these same causes for project failure. So how do we implement ITIL yet avoid these common project mistakes?

Managing Delivery Risk

Those of us with a software development background are familiar with the iterative development model. The basic premise behind the model (see Figure 3) is that you plan a little, do requirements a little, design a little, implement a little (in code), deploy a little, test a little, evaluate a little, and then repeat the whole cycle many times until done. Developed by Professor Barry Boehm at the University of Southern California in 1981, this model was the precursor to the Rational Unified Process and Unified Modeling Language now in wide-spread use.

The beauty of this simple model was that, from a project delivery risk perspective, it greatly enhanced the development team and client's ability to decipher complex information system requirements into more manageable chunks. It was the first real replacement for the waterfall method where the same things were done sequentially—once—so you'd better get it right, as you had only one shot at it.
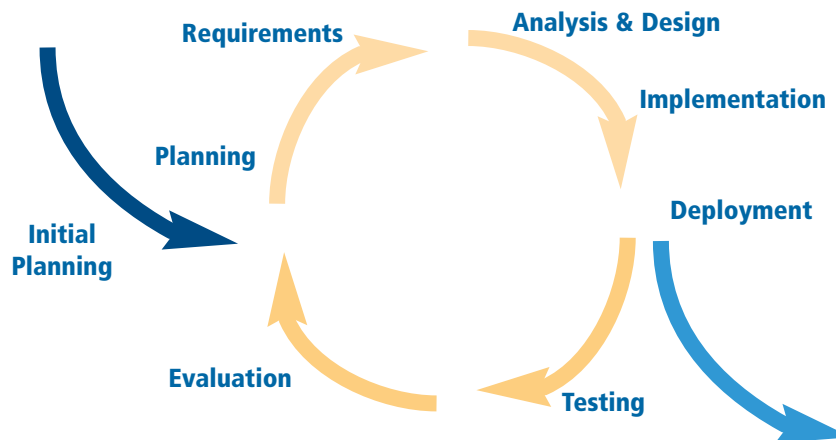

Figure 3. Iterative Development Model (Wikipedia)

According to the ITSMF, for a large enterprise, it can take anywhere from 12 to 36 months to implement ITIL. That sounds an awful lot like the timelines that cause many projects to fail.

So is there a better way to do it? The answer, of course, is yes. The rest of this white paper examines the application of the ideas introduced thus far in breaking an ITSM implementation project into more manageable chunks that reduce project risk, maintain focus and momentum, control scope, and ensure the right skills are brought to bear at the appropriate times.

An IT Service Management Implementation Project

Now let's apply what we have talked about so far at a typical company. A very common starting place is a maturity assessment of the processes in the existing IT operations environment. A maturity assessment of existing IT processes helps an organization understand in clear terms how its processes stack up compared to

the best practices for each ITIL process and function. This helps identify the biggest pain points and leads to a determination of what should be handled in what sequence. The assessment should include all areas of IT operations, as well as key business and IT resources. Getting everyone on-board and engaged early are key ingredients to eventual implementation success.

A key tenet of project management practice is to break work down into more manageable chunks via a work breakdown structure. What follows is how an ITIL implementation project can be broken down into easily understandable and executable chunks of work.

Project Initiation and Implementation

An IT Service Management Implementation project typically follows a sequence of basic project implementation steps:

1. Initiate Project
During this step, the Project Team:
- Develops the project charter and scope statement and gets it signed off by the CIO
- Conducts ITIL awareness sessions for everyone who will be interviewed as part of the maturity assessment.
- Conducts interviews with key IT and business stakeholders for each ITIL process and function
- Does a gap analysis based on the IT process interviews and ITIL best practice
- Uses the gap analysis results to determine the sequence for when and whether each ITIL process/function should be implemented individually or in clusters (see side bar for clustering based on ITIL V3)
- Defines the deliverables for each grouping, determines resource requirements, applies estimates, and builds a schedule for implementation

2. Implement each process/function or cluster according to the schedule
Using the schedule that was developed based on the gap analysis, the implementations can begin. The gap analysis will identify the biggest "pain points" within IT, as well as help clarify the best sequence to build momentum, as well as a solid foundation for future success. Each implementation involves some sort of training, whether certification-focused in the relevant ITIL Practitioner clusters, ITIL Foundation, or ITIL Service Manager, or skills-based in a hands-on workshop setting. A key to success is getting the IT staff to understand the parts of ITIL that are relevant to their work.

3. Do a post implementation review following each process/function or cluster implementation
It is important to understand what worked well in each implementation and what did not in order to make each successive implementation more efficient and effective. It is also an opportunity to make resource changes that can revitalize the implementation team, which will increase knowledge transfer and improve take-up of the new way of doing things throughout IT.

4. Put each implemented process/function or cluster into a Continual Improvement Program state
Implementing IT Service Management (ITSM) through ITIL is a journey not a destination. Turning ITSM on in an IT Operations environment is the beginning of the rest of the journey. As such, as each process/function or cluster is turned on you should move into the continual program improvement (CIP) state.

Iterate Until Done

Once the Project Team has delivered on the first process grouping in its ITSM implementation, it continues the iterative project implementation approach. The Project Team assembles for implementing the next process grouping—and repeats steps 2-4 above. These steps are then iterated for each of the remaining process groupings until done. Each time through the steps, it is advisable to revisit the project schedule and update it prior to starting the latest iteration.

Ongoing Operations of IT Service Management

The use of project management practices can apply not only to the implementation project for IT Service Management, but also in the context of its ongoing operation. For example, following an impact analysis for a Request for Change (RFC), it may be discovered that the complexity, reach, and cost of the implementing the change is so great that a project needs to be created to manage it properly. Likewise, as upgrades to the tools that are used in support of IT Service Management go through upgrades, the use of proper project management can also help mitigate risks associated with software upgrades within the supporting infrastructure. Knowing when not to use project management in ongoing IT Service Management operations is just as important as knowing when to use it. Blindly decreeing that every RFC must be handled as a formal project would likely introduce considerable overhead into everyday IT operations and drive up IT costs rather contain them. For large RFCs, applying project management practices is a way to mitigate risks and contain costs. For smaller RFCs, it will likely increase costs due to unnecessary process steps.

Similarly, treating the continual improvement that must accompany any process implementation—and IT Service Management is all about process—as a project rather than realizing you need to apply a quality management system such as Deming's Plan-Do-Check-Act instead, may also not lead to the desired results. Correct application of any new technique or method by itself is hard enough, but applying it in the context of other methods and techniques introduces some twists that need to be managed. Application of project management best practices on an IT Service Management project will not guarantee project success any more than it does for any other IT project (see why projects fail, noted earlier), but it will certainly tip the odds significantly in your favor if you take a measured approach.

Conclusion

While the King advised Alice that she should "Begin at the beginning and go on until we come to the end; then stop," we have seen that, in the case of implementing ITIL using project management best practices, we have many project beginnings and ends—both during and after implementing ITIL.

This white paper provided the reader with an overview of the PMBOK® Guide as well as the key process areas and functions within the IT Infrastructure Library. We compared and contrasted the two bodies of knowledge and illustrated that they share many common traits in their goals and objectives for their respective domains, noting, however, that while project management is domain agnostic, ITIL is IT-specific. We established a foundation for discussion by looking at why many IT (not just ITSM) projects fail and how an iterative approach to both deployment and project management itself can help with the mitigating risk in ITSM deployment projects. We concluded by noting that once ITSM is implemented, project management not only has a role in continued ITSM success, but is a necessary ingredient when used in the right situations.

IT Service Management as the next big wave in IT is already here, and already we are hearing about failed and delayed implementations. While using project management practices will not guarantee your success, it will significantly improve your chances—if you know when to use it, how to use it, and ensure that your staff has the right training and understanding in both disciplines.

About the Author

Larry Cooper is the CEO of ITSM Canada, an Authorized itSM Solutions® provider and a VAR for Touchpaper's ITBM Suite of products. Mr. Cooper has spent more than 28 years in IT in the public and private sectors where he has held roles such as a Software Developer/Programmer Analyst, Manager of Operations, Lead for Business Process Re-engineering, various Project Manger roles on projects upwards to $100M, and A/Director, Business Technology. He has written and been published in books and industry articles on a variety of technology, IT Service Management, and Project Management topics. He holds three project management certifications including a PMP, an IT Service Manager certification, and is an EXIN-accredited Master's level trainer. He resides in Ottawa, Canada with his wife and two children. He can be reached at Larry.Cooper@ITSMCanada.ca.

Learn More

Learn more about how you can improve productivity, enhance efficiency, and sharpen your competitive edge. Check out the following Global Knowledge courses:

ITIL Service Manager Certification Boot Camp
IT Project Management
ITIL Foundations Certification Boot Camp
ITIL Practitioner Certification Boot Camp

For more information or to register, visit www.globalknowledge.com or call 1-800-COURSES to speak with a sales representative.

Our courses and enhanced, hands-on labs offer practical skills and tips that you can immediately put to use. Our expert instructors draw upon their experiences to help you understand key concepts and how to apply them to your specific work situation. Choose from our more than 700 courses, delivered through Classrooms, e-Learning, and On-site sessions, to meet your IT and management training needs.

Endnotes

1. *Alice in Wonderland*, Lewis Carroll
2. *A Guide to the Project Management Body of Knowledge*, 2004, PMI
3. ITIL Service Delivery, OGC
4. ITIL Service Support, OGC
5. Wikipedia
6. *A Guide to the Project Management Body of Knowledge*, p. 6
7. Ibid