eSourcing Capability Model ($e^{scm^{SM}}$) for IT-enabled Service Providers v1.1

Elaine B. Hyder, Bennet Kumar, Vivek Mahendra,
Jane Siegel, Keith M. Heston, Rajesh Gupta,
Habeeb Mahaboob, Palanivelrajan Subramanian

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School of Computer Science
Carnegie Mellon University
Pittsburgh, PA 15213-3890

Abstract

Organizations are increasingly delegating their information technology (IT) intensive business activities to external service providers, taking advantage of the rapid evolution of the global telecommunications infrastructure. The business processes being outsourced range from routine and non-critical tasks, which are resource intensive and operational, to strategic processes that directly impact revenues. IT-enabled sourcing services include IT-intensive business processes, projects, and tasks that use information technology as an enabler for designing services, coordinating service deployment, and delivering services. Managing and meeting client expectations is a major challenge in IT-enabled sourcing services and examples of failure abound. Failures typically happen throughout the sourcing process, i.e., during requirements specification, contract execution or service completion.

The eSourcing Capability Model ($e^{scm^{SM}}$) contains a set of 93 best practices that address the entire sourcing process, and seeks to aid IT-enabled sourcing service providers in forming, managing and improving sourcing relationships. Each practice in the e^{scm} is associated with a capability level. The five capability levels in the e^{scm} describe an improvement path that progresses from a limited level of capability to deliver a service that meets a client's particular requirements up to the highest level of enhancing value through continuous innovation.

Part One of this Technical Report provides an overview of the e^{scm}. To learn more about the practices, see Part Two, which provides detailed descriptions of each practice in the e^{scm}.

Contributors
Tad Hirsch, Ellen Ayoob, and Arie Stavchansky designed the graphics for this technical report. Mark Paulk contributed substantially to modifications and expansion of practice rationales and Dr. Bill Hefley contributed to improvements in the people-related practices and the model comparison effort. Jeff Perdue and Majid Iqbal assisted with updating and refining content from v1.0 to v1.1. Editorial and usability support was provided by Simone Shapiro. The authors received substantial advice about measurement attributes for the Detailed Practice Descriptions from Dr. Srinivasa Desikan of Satyam Computer Services, Ltd. We also appreciate the work done by K. Madhu, formerly with Satyam Infoway, who helped to develop and pilot test the model and method.

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Keywords: service provider's model, quality models and systems, capability models, business process outsourcing, IT-enabled outsourcing services, IT-enabled services, outsourcing, outsourcing models, sourcing, eSourcing Capability Models, benchmarking.

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Preface

This is a technical report on the eSourcing Capability Model (**e**scm) v1.1 for Service Providers developed at Carnegie Mellon University.[1] Carnegie Mellon has a strong research track record in quality modeling, including the Capability Maturity Model® for Software (SW-CMM®) [Paulk 95], People (P-CMM®) [Curtis 01], Software Acquisition (SA-CMM®) [Ferguson 96], and CMM IntegrationSM (CMMISM) [CMMI 02][2], eCommerce Capability and eBusiness Maturity Model[3] (eMM), and business management models[4]. In November 2001, the Information Technology Services Qualification Center (**IT**sqc) within Carnegie Mellon's[5] Institute for Software Research, International (ISRI) in the School of Computer Science, released v1.0 of the **e**scm. The mission of the **IT**sqc is to address the emerging need for capability models and qualification methods, including certification, for organizations involved in the evolving global services economy.

The eSourcing Capability Model was developed to provide IT-enabled sourcing service providers[6] with a reference model and capability determination methods to improve their capability to consistently deliver high-quality services in the networked economy. The model and methods will aid service providers in establishing, managing, and continually improving relationships with clients. Additionally, the **e**scm will give clients a means to consistently evaluate multiple service providers.

In the development of this Capability Model, Carnegie Mellon is creating an **IT**sqc consortium of leading international corporations. Satyam Computer Services Limited,[7]

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[1] A client-side model for IT-enabled outsourcing will be forthcoming in 2Q2003.

[2] Developed by Software Engineering Institute (SEI) at Carnegie Mellon University.

[3] Developed by the Graduate School of Industrial Administration (GSIA) with PricewaterhouseCoopers (PWC).

[4] GSIA

[5] www.cmu.edu

[6] IT-enabled sourcing services are those services that use information technology as an enabler for performing activities that include developing service designs, coordinating service deployment, and delivering services. Sourcing includes outsourcing but covers a broader range of relationships than traditional outsourcing, including in-sourcing.

[7] (NYSE: SAY), www.satyam.com

is the founding member in the global consortium for the **e**^{scm} effort, Accenture[8] is a contributing member, and IBM Global Services is a principal member. Two additional organizations are finalizing relationships with **IT**^{sqc} at this time.

This document consists of an Executive Summary, followed by Parts One and Two of the document.

Part One is Overview of the **e**^{scm}, comprised of seven sections:

1. An introduction to IT-enabled sourcing and the need for a capability model to address its specific issues
2. Background information about sourcing and business opportunities in the IT-enabled sourcing service sector
3. A detailed description of the **e**^{scm} intent and development approach, including critical issues in modeling and assessing IT-enabled sourcing service capabilities, and a brief analysis of related process and system quality models
4. **e**^{scm} guiding principles, framework, and Capability Levels
5. An introduction to the **e**^{scm} Practices
6. A short description of the methods used for capability determination
7. A summary of the Model Overview

Part Two presents the Detailed Practice Descriptions and is comprised of five sections:

1. An introduction to the detailed Practice descriptions for the model
2. Explanatory text about Types of Practices
3. A description of Understanding of the Practices
4. A brief description of Future Work on Practices
5. Detailed descriptions of each of the Practices

References about sourcing and the Glossary of terms used in this document are provided at the end of Part Two. The Glossary is followed by three Appendices. Appendix A is a detailed matrix showing comparative coverage between the **e**^{scm} and other major quality models. Appendix B provides a view of the Practices by Phase and

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[8] (NYSE: ACN), www.accenture.com

Capability Levels. The document ends with Appendix C, which presents a comparison of the Practices in v1.0 and v1.1 of **e**^{scm}.

Executive Summary

Sourcing Business Context

Driven by increasing competitive pressures over the last few years, organizations have been delegating one or more of their information technology (IT) intensive business activities to an external service provider. In spite of reported problems, more than 30% of the organizations that have already outsourced one business process were actively searching for additional outsourcing opportunities in other areas [Dun & Bradstreet 02]. About 93% of 300 companies recently surveyed by The Conference Board were actively outsourcing [The Conference Board 02].

The business processes being outsourced range from routine and noncritical tasks, which are resource intensive and operational in nature, to strategic processes that directly impact revenues. The rapid evolution of the global telecommunications infrastructure, and the increasing availability of bandwidth, has facilitated the design and delivery of sourcing services from geographically distributed locations. Sourcing service providers can now support multiple global sourcing relationships, providing significant cost and quality benefits to their clients.

Recent estimates and forecasts suggest a growing market for outsourcing services worldwide. According to a recently published International Data Corporation report, the worldwide market for information systems outsourcing is expected to grow to $110 billion by 2006 [IDC 02a]. According to the Gartner Group, worldwide spending on business process outsourcing may reach $172 billion by 2003 [Gartner Group 02]. Forrester Research estimates that just the U.S. market for technology and business process outsourcing could reach $226 billion by 2006 [Forrester Research 02]. Some examples of IT-enabled sourcing services are remote customer interaction, data center management, application service providers, content management, and human resources (benefits, payroll, etc.). These services are provided to different market sectors such as healthcare, finance, and consumables.

Managing and meeting client expectations is a major challenge in IT-enabled sourcing services, where the nature of the services themselves, and the rapid changes in technology and tools, introduce an additional level of complexity. Examples of failures in sourcing relationships abound. A Booz Allen Hamilton 2001 Business Process Outsourcing (BPO) Survey of 100 U.S. companies found that there were many impediments being encountered by outsourcing clients [Booz 01]. Prominent among these were, weak control of cost/performance data, excessive standardization on part of the service provider, and unresponsiveness to changing business needs.

> Over each of the four years in Dun & Bradstreet's Barometer of Global Outsourcing, companies have reported that between 20% and 25% of all outsourcing relationships fail in any two-year period. Half of the relationships will fail within five years. The reasons cited for failure are remarkably similar across all types of relationships. Nearly 70% of the respondents note that the outsourcing supplier "didn't understand what they were supposed to do" and "the cost was too high and they provided poor service." [Ozanne 00]

IT^sqc Capability Modeling and Certification

Sourcing "is an arrangement in which one company provides services for another company that could also be, or usually have been, provided in-house." [TechTarget.com 01] The concept of sourcing is not new. However, the frequently changing nature of IT-enabled sourcing services, and the need for keeping up with emerging technologies and expertise, introduce a higher level of complexity for service providers and present risks for clients. The growing need to help clients determine a service provider's capability led to the creation of the Information Technology Services Qualification Center (**IT^sqc**). **IT^sqc** is part of Carnegie Mellon's Institute for Software Research International (ISRI) in the School of Computer Science. The mission of the **IT^sqc** is to address the emerging need for capability models and qualification methods, including certification, for organizations involved in the evolving global services economy. The **IT^sqc** is developing four related capability-modeling efforts.

1. eSourcing Capability Model (**e^scm**) for Service Providers
2. eSourcing Capability Model (**e^scm**) for Clients

3. eCommerce Capability Model (e^{ccm})
4. eSecurity Capability Model

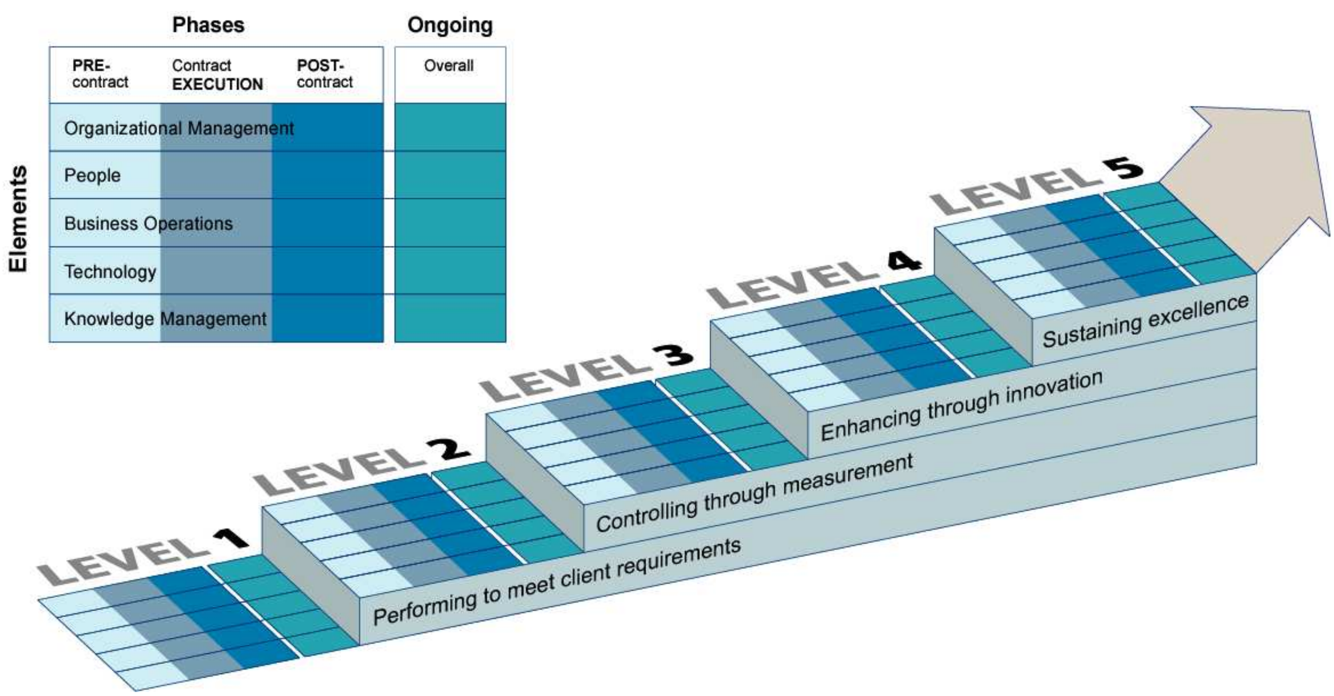
This executive summary focuses on the eSourcing Capability Model (e^{scm}) for Service Providers and its potential value for both clients and service providers.

The e^{scm} is a "best practices" model. It offers client organizations a means to select capable providers who are committed to delivering consistently high quality services and developing continually improving relationships. We also expect this model to provide guidance to service providers so they can more effectively manage IT-enabled sourcing relationships.

The e^{scm} Framework

The e^{scm} contains 93 Practices organized into Phases, Organizational Elements, and Capability Levels. This framework is shown in Figure 1 below.

Figure 1: Overview of e^{scm} Phases, Elements, and Capability Levels.



Practices

The 93 Practices of the e^{scm} address the critical capabilities for IT-enabled sourcing service providers. These “best practices” are associated with successful sourcing relationships.

Phases

The model distinguishes three phases in a sourcing relationship – Precontract, Contract Execution, and Postcontract. The Practices in the e^{scm} are defined as being either Overall or Phase-specific. Overall Practices are independent of Phase and are applicable across all phases of the sourcing process. Phase-specific Practices apply to a specific Phase of the sourcing process.

Existing standards and models such as the International Standards Organization (ISO 9001) (ISO 9001:2000 02), Baldrige Criteria for Performance Excellence 2002™ [Baldrige 02], and the family of Capability Maturity Models (CMMs) primarily focus on the execution of a contract. The Practices for e^{scm} were developed to be complementary to, and compatible with, these existing quality models wherever feasible. Like these models, e^{scm} also addresses contract activities related to the design and deployment of services. In addition, however, the e^{scm} asserts that successful sourcing requires a focus on three often overlooked areas: (1) the activities leading to the formation of sourcing relationships (Precontract), (2) the delivery, transitioning or completion of contracted services (Postcontract), and (3) the successful management of activities that occur throughout the sourcing process (Overall). Thus, e^{scm} addresses issues critical to success of the sourcing relationship and the entire sourcing process.

Organizational Elements

In addition to attention to Phase-specific issues, successful sourcing requires the coordinated functioning of the organization across the sourcing process. The e^{scm}

addresses five Organizational Elements that are critical to successful sourcing: Organizational Management, People, Business Operations, Technology, and Knowledge Management. The Practices in $\mathbf{e}^{\mathrm{scm}}$ are organized by these Organizational Elements across the Phases of the sourcing process.

Capability Levels

The five Capability Levels of $\mathbf{e}^{\mathrm{scm}}$ describe an improvement path that clients should expect service providers to travel. This path starts from a desire to provide IT-enabled sourcing services, and goes up to the highest level of enhancing value for all engagements through continuous innovation. The five Capability Levels in this improvement path are:

Capability Level 1 - Initial
Capability Level 2 - Performing to meet client requirements
Capability Level 3 - Controlling through measurement
Capability Level 4 - Enhancing through innovation
Capability Level 5 - Sustaining excellence

Figure 1 shows the relationship of the Phases, Elements, and Capability Levels in the $\mathbf{e}^{\mathrm{scm}}$ framework.

At Capability Level 1, service providers have not implemented all the basic Level 2 Practices. They operate without formalized systems and procedures, and even if a procedure has been specified, it is not always rigorously followed or enforced. Frequent crises, exceeded budgets and missed schedules are some of the other operational characteristics of such a service provider. Service providers at the Initial Level are often unable to effectively address their clients' requirements. Working with these organizations carries a high degree of risk and may eventually lead to the defeat of the very purposes of sourcing: increasing financial benefits or adding business value.

At Capability Level 2, a service provider has formalized procedures for capturing requirements and delivering the service according to commitments made to clients. At Capability Level 3, such a provider is able to continuously learn from experience, and measure and control its activities across multiple client engagements. A service provider at Capability Level 4 is able to proactively respond to changes in the external or internal business environment, in addition to enhancing the capabilities gained at Capability Level 2 and Level 3. A demonstrated ability to enhance value to stakeholders and sustain capabilities at Capability Level 4 for at least two years allows a service provider to achieve Capability Level 5 – Sustaining Excellence.

e^scm – Capability Determination Methods

The e^scm is accompanied by two types of capability determination methods: an Evaluation and a Self-appraisal. Each of these can be used either with the entire 93 Practices (Full Evaluation for Certification or Self-appraisal) or with a subset set of them (Mini Evaluation or Mini Self-appraisal). All of the Evaluation and the Self-appraisal methods can be used to identify, analyze, and improve organizational capabilities. The e^scm -based Evaluation Method will allow clients to compare multiple potential providers with respect to the same capabilities, measured in a consistent manner. External agents who are trained and authorized by Carnegie Mellon will conduct Evaluations for Certification of service providers. For an Evaluation for Certification, after a rigorous review of the evaluation data, Carnegie Mellon will issue a Certificate of Capability to qualified service providers. The Evaluation Method will aid in the analysis of the service providers' strengths, weaknesses and associated risks by measuring the extent of implementation and institutionalization of the Practices defined in the e^scm. The Self-appraisal method will allow service providers to determine their current capabilities and define targets for improvement.

A repository of data collected from participating organizations is being established at Carnegie Mellon's IT^sqc. The repository will provide status on state-of-the-art practices in IT-enabled sourcing services, and may provide clients with information on benchmark capabilities of service providers. It will also be used by IT^sqc to make changes, as necessary, to the e^scm to reflect the dynamic nature of the sourcing industry.

The e^scm framework and Evaluation for Certification method will be available from Carnegie Mellon University so that IT^sqc-authorized external agencies may use it to determine service provider capability prior to the end of 2002. More information and details on training and on capability determination methods are available at <URL:http://itsqc.srv.cs.cmu.edu>. For information about becoming a member of the consortium sponsoring this work please contact escm@cs.cmu.edu.

Part One: Overview of e^{scm}

Introduction

The concept of allocating business activities to an outside organization in order to derive cost and quality benefits is not new to organizations. Outsourcing[9] has been widely used since the mid-twentieth century. Initially outsourcing was used primarily for the manufacturing of industrial components, as well as for some non-critical services such as facilities management. Outsourcing in information technology (IT) commenced in the 1960s when organizations commonly used timesharing as a way to manage costs and continued in the 1970s when organizations started to outsource parts of their data processing operations to external service providers, in an effort to achieve significant cost savings. The 1980s and 1990s witnessed the establishment of some landmark outsourcing agreements, which involved the shifting of entire IT operations to external service providers.

The rapid globalization of business, and the increased focus on core competencies in the late 1980s and the 1990s, also led organizations to extend the concept of outsourcing to IT-intensive business processes. These business processes included information services, logistics, human resource services, financial and payment services, and customer care. Business process outsourcing is now one of the fastest growing segments worldwide, with revenue forecasts of $172 billion by 2003 [Gartner Group 02].

More recently, IT-intensive projects and tasks, including engineering services, geographical information systems, multi-media content development, and transcription services are also being increasingly outsourced. The primary drivers for this trend are increasing competitive pressures, a need to access world-class capabilities, and a desire to share risks.

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[9]Outsourcing "is an arrangement in which one company provides services for another company that could also be or usually have been provided in-house" [TechTarget.com 01].

IT-intensive business processes, projects, and tasks that are being sourced[10] currently range from routine and non-critical tasks, which are resource intensive and operational in nature, to strategic processes that directly impact revenues. The rapid evolution of the Internet and the global telecommunications infrastructure has provided organizations with a choice of service providers located anywhere in the world. Organizations that are sourcing their business processes, projects or tasks are establishing 'extended' business partnerships with service providers, and are transforming themselves into global enterprises.

IT-enabled sourcing services include IT-intensive business processes, projects and tasks that use information technology as an enabler for designing services, coordinating service deployment, and delivering services. Some of the critical characteristics of IT-enabled sourced services include:

- Service design and deployment activities that focus on designing the service delivery process
- Setting-up technology infrastructure
- Developing or acquiring required skills
- Service delivery that is continuous and repetitive and
- Transitioning of service delivery infrastructure, including personnel.

Managing and meeting client expectations is a major challenge in IT-enabled sourcing services, where the nature of the services themselves, and the rapid changes in technology and tools, introduce an additional level of complexity. Examples of failures in sourcing relationships abound. Failures typically happen throughout the sourcing process, but are especially prevalent during requirements specification, contract execution, or service transition [Ketler 99]. The primary reason for failures is lack of defined service objectives and inadequate measurement of service-related activities used to quantify and report progress.[11]

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[10] Sourcing includes outsourcing but covers a broader range of relationships than traditional outsourcing, including in-sourcing.

[11] "There are hidden costs associated with outsourcing, with nearly 40% of the respondents in a survey indicating that their outsourcing bills are higher than expected. Initial bills exceeded the expected cost by at least 20% due to a low vendor estimate and/or an honest misunderstanding of the contract" [Ketler 99].

According to a Dataquest study, more than half (53%) of all sourcing customers report having renegotiated a contract, and in nearly one-quarter of these renegotiations the original service provider lost the account [Gartner Group 00].

> Companies have reported that between 20% and 25% of all outsourcing relationships fail in any two-year period. Half of the relationships will fail within five years. The reasons cited for failure are remarkably similar across all types of relationships. Nearly 70% of the respondents note that the outsourcing supplier "didn't understand what they were supposed to do" and "the cost was too high and they provided poor service" according to Dun & Bradstreet's Barometer of Global Outsourcing. [Ozanne 00]
>
> In spite of the problems reported by many respondents, clients continue to plan to increase their outsourcing in the years beyond 2000. Over 30% of the companies presently outsourcing functions of their businesses are actively engaged in searching for outsourcing opportunities in additional functional areas. [Ozanne 00]

The large incidence of failures in sourcing relationships and the continuing growth of IT-enabled sourcing services led **IT**^{sqc} to focus on the effective management of sourcing relationships and methods to determine and compare the capability of service providers. This eSourcing Capability Model (**e**^{scm}) provides IT-enabled sourcing service providers a framework to improve their capability to deliver consistently high quality services and aids them in establishing, managing and continually improving relationships with their clients. The intent of the **e**^{scm} is to present service providers with a set of best practices that help them to effectively manage sourcing relationships, and it presents clients with a way to evaluate and compare service provider's capabilities. The **e**^{scm} achieves this intent by focusing on the critical organizational attributes for organizational management, people, business operations, technology and knowledge management, and their applicability to the sourcing process. The **e**^{scm} Practices cover the entire sourcing process including: (1) activities leading to the formation of sourcing relationships; (2) service design and deployment activities; (3) the delivery and enhancements of sourced services; (4) the transitioning of sourced services back to the client at contract completion.

By grouping these Practices in increasing levels of capability, the e^{scm} describes an improvement path for a service provider. Providers may advance from a minimal level of delivering services, to the highest level where they are sustaining enhanced value to a client through innovation, regardless of the requirements or scope of sourcing efforts. The five Capability Levels that define this path are: <u>Capability Level 1</u> - Initial, <u>Capability Level 2</u> - Performing to meet client requirements, <u>Capability Level 3</u> - Controlling through measurement, <u>Capability Level 4</u> - Enhancing through innovation, and <u>Capability Level 5</u> - Sustaining excellence. These Capability Levels are shown graphically in Figure 1, page 6 of this document.

As noted in the Executive Summary, the e^{scm} is accompanied by multiple Self-appraisal and Evaluation methods to identify, analyze, and improve organizational capabilities. The e^{scm}-based capability determination methods will allow service providers to find out their current capabilities and define targets for improvement. These methods will also allow clients to compare multiple potential providers systematically and consistently. The e^{scm} methods support systematic determination of the extent of implementation and institutionalization of e^{scm} Practices. These methods will also aid in the identification of strengths, weaknesses, and associated risks during the formation, management, and expansion of sourcing relationships, both for service providers and their clients. A more detailed description of capability determination methods is in Part One of this document in the section 'e^{scm} – Methods to Determine a Service Provider's Capability', pages 59-63.

IT-enabled sourcing Services - Background

The Extended Enterprise

Organizations that source (hereafter referred to as clients) realize the importance of concentrating on core competencies,[12] and thus are establishing extended business partnerships with other organizations. These sourcing relationships look beyond geographical boundaries to derive cost and quality benefits by forming sourcing relationships with service and business infrastructure providers (hereafter referred to as 'providers'). These providers have as their core competencies the business processes, functions, or specific activities that are sourced by the extended enterprise.

According to Peter Drucker, "In 10 to 15 years organizations may be outsourcing all work that is support rather than revenue producing" [Drucker 95] in order to lower their overall operating costs and improve service delivery. The strategic factors that drive organizations to do sourcing are those that have a direct impact on a company's overall marketplace position. Strategic factors include:

- re-engineering organization-wide to focus on core business functions
- increasing employee and management demands for service
- increasing regulatory and compliance requirements due to organizations operating across geographical boundaries
- accessing world-class capabilities
- sharing risks and
- increasing cost pressures.

In addition to these strategic factors, there are tactical and transformational reasons for sourcing as well. Tactical reasons include infusing cash into business operations and reducing and controlling operating costs. Transformational reasons include responding to shorter product life cycles, reducing the risk of entering new markets, and leapfrogging competitors.

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[12]According to Gary Hamel and C.K. Prahalad, "The key sources of advantage are to be found in management's ability to consolidate corporate-wide technologies and skills into competencies that empower individual businesses to adapt quickly to changing opportunities. Thus core competencies are the collective lessons learned in an organization, especially how to co-ordinate diverse skills and integrate multiple streams of technologies." [Prahalad 90, p. 81]

The worldwide market for information systems outsourcing alone is expected to grow to $110 billion by 2006 [IDC 02a]. According to an estimate by Forrester Research in 2002, just the U.S. market for technology and business process outsourcing[13] is expected to reach $226 billion by 2006 [Forrester Research 02]. Worldwide outsourcing of customer care services is expected to reach $86 billion by 2006 from $40 billion in 2002, at a compound annual growth rate of 19.8% [IDC 02b]. The worldwide market for logistics Business Process Outsourcing (BPO) has been estimated to grow to $308 billion by 2006 [IDC 02c]. PricewaterhouseCoopers sponsored the Global Top Decision-Makers Study on Business Process Outsourcing in 1999. The study was a comprehensive report of global trends and developments in BPO.[14] It revealed that:

> Nearly two thirds (63%) of the top decision-makers interviewed said their companies had outsourced one or more business processes to external organizations and, two-thirds (66%) of the executives believed that BPO helped their companies become more profitable, leading to improved shareholder value. [Yankelovich Partners 98]

According to Dataquest's [Gartner Group 00] 1999-2004 market forecast for BPO, the BPO market is experiencing record growth. The report states that:

> Worldwide, BPO services[15] are expected to grow from $207.7 billion in 1999 to $543.5 billion in 2004, with a Compounded Annual Growth Rate (CAGR) of 21.2 percent. At present, Logistics, Human Resource and Financial/payment services contributes the largest portion of the BPO market. Sales, marketing and customer care (which includes database and customer analysis, telesales/telemarketing, customer care, web sales and web marketing, others), and finance and accounting have been identified, as high potential areas for being outsourced by 2004. [Gartner Group 00]

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[13]Dataquest defines BPO as "the delegation of one or more IT-intensive business processes to an external provider that, in turn, owns, administrates and manages the selected process/processes, based upon defined and measurable performance metrics." [Gartner Group 00]

[14]The study was conducted by the market research firm, Yankelovich Partners, which interviewed senior executives at 304 of the world's largest companies in 14 countries [Yankelovich Partners 98].

[15]"Not including manufacturing services, the BPO market is valued at $106.7 billion in 1999, growing at a 23.1 percent annual growth rate, and is expected to reach $301 billion in 2004." [Gartner Group 00]

Sourcing Contexts and Relationships

Sourcing relationships can be grouped into three broad contexts based on the analysis of what activity or group of activities is being sourced by a client. These are process sourcing, project sourcing, and task sourcing.

- **Process sourcing** – an entire business process of the client is sourced and the control of the process is transferred to the provider. For example, payroll sourcing may involve the complex stage of transitioning the entire process including resources such as computers, personnel, software applications, etc., to a provider.
- **Project sourcing** – a subset of activities in a business process of a client (e.g., installing IT infrastructure, new product design, software development for specific applications) may be sourced to a provider, while the client retains control of the business process. A project has a definite end-date that is typically the date of delivery of the required service.
- **Task sourcing** – a task within a business process of a client or a project is sourced to a provider when the demand for the task is intermittent; the task does not warrant allocation of internal resources by the client, or there is unplanned high demand for the task that cannot be met by the client's internal resources. Some examples of tasks include training or transcription services.

The rapid evolution of the Internet and the increasing availability of bandwidth have facilitated the formation of extended enterprises. In the networked economy, organizations may be located at geographically dispersed locations. As a result service providers can now serve multiple sourcing relationships, leading to significant cost and quality benefits to clients. This ability to extend past geographical boundaries has contributed to the growth of IT-enabled sourcing services. The following are examples of different sourcing relationships.

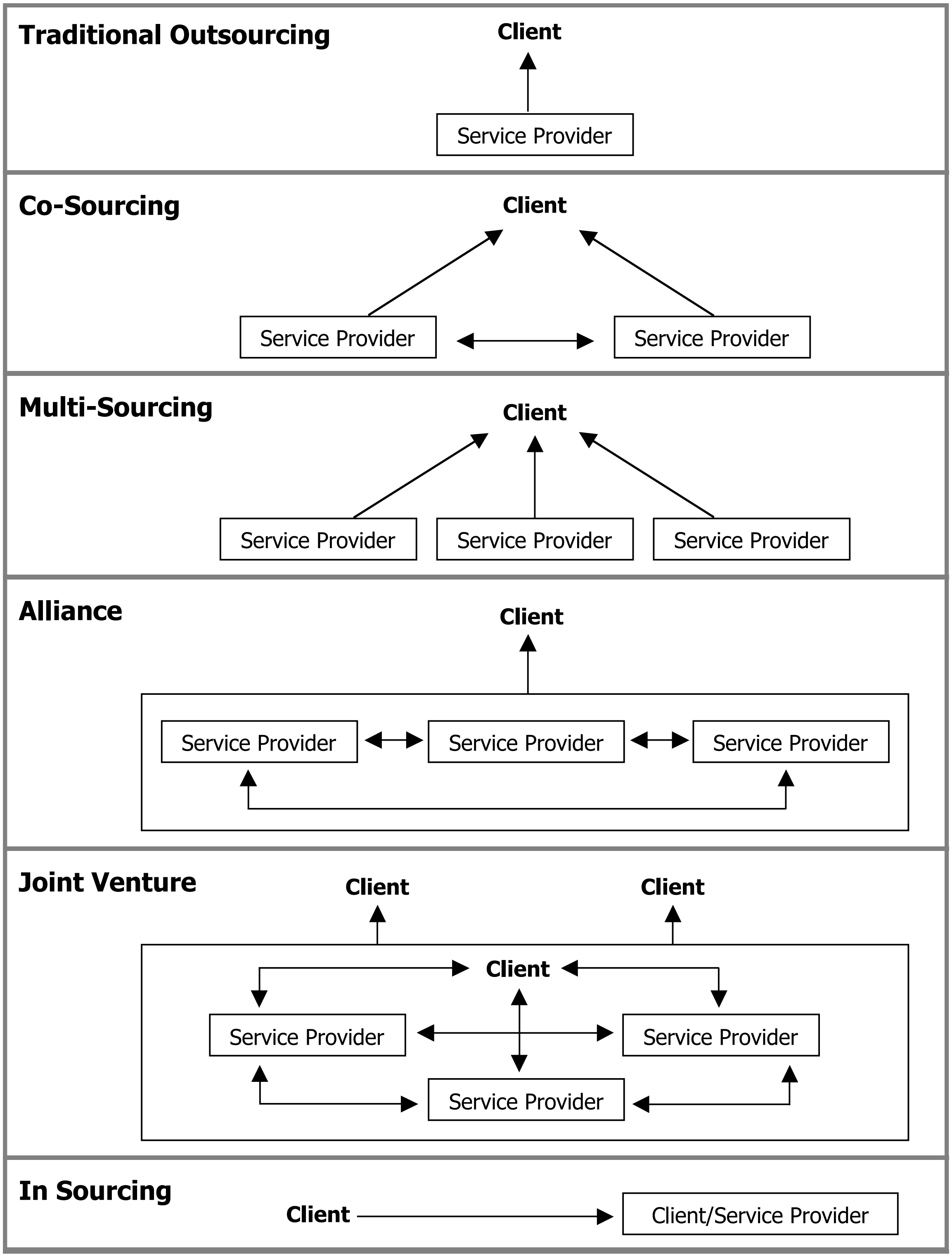
- **Traditional** – One service provider and one client.
- **Co-sourcing** – Two service providers working together to fulfill an agreement for a client. Often, one of these providers is in-house and the other is external to the client.
- **Multi-sourcing** – One client sourcing services to multiple organizations. Each service provider is managed separately by the same client.
- **Alliance** – A collaborative arrangement where multiple service providers work together to serve one or more clients. Often, one of the service providers has a primary role in interfacing with the client on behalf of the alliance.
- **Joint Venture** – The client and one or more service providers go into a joint business venture, a partnership.

- **In-sourcing** – A sourcing relationship where a group within the client organization is selected to provide service, but is largely managed as a separate entity.

We use the term sourcing to refer to any and all of the above types of relationships.

Figure 2 provides a graphic depiction of these sourcing relationships.

Figure 2: Graphic depiction of sourcing relationships.



The following are examples from recent press releases of the different, and significant, sourcing relationships.

Traditional

Cap-Gemini Ernst & Young (CGE&Y) signed a 10-year outsourcing contract with Hydro One to provide Enterprise Technology Services, Human Resources Payroll, Supply Chain, Customer Service Operations and Settlements, and Accounting services. This included transition of 900 people to CGE&Y.[16]

Co-sourcing

AT&T and Accenture signed a 5-year, $2.6 billion co-sourcing agreement. Each company will share in management, staffing, technology, and culture of the operation. AT&T will continue to be responsible for establishing strategic business direction, defining market strategies, and designing product offerings. Accenture will be responsible for new technology development and ongoing management direction for the transformation of AT&T Consumer long distance sales and customer care operation.[17]

Multi-sourcing

BP decided to protect themselves from vulnerabilities of using just one service provider for their IT functions. To avoid the risks of escalating fees and inflexible services, they hired three separate providers and put them under an umbrella contract so they had to work together, but were managed by the client.[18]

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[16] PRNewswire, February 13, 2002

[17] Accenture, Press Release, January 15, 2002

[18] Research Paper Relationships in IT Outsourcing: A Stakeholder Perspective. Mary Lacity and Leslie Willcocks, Templeton College, February 2000.

Alliance

PWC is part of an alliance led by healthcare IT provider McKesson to roll out a single payroll and human resources system for the U.K. National Health Service. The Department of Health (DoH) has agreed to a 10-year, $461.5 million deal, through which it expects to save $568 million. The system will be based on Oracle's HR application, running on IBM p690 Unix servers. The NHS currently uses 38 different HR systems and 29 different payroll applications for its one million staff.[19]

Joint Venture

Canada Post has selected CGI Group to create a jointly owned IT services company. The new firm will provide IT services, including e-business solutions, to the Canada Post group of companies, including Purolator Courier Limited and Progistix Solutions, and other postal organizations worldwide. Annual revenue of the newly created firm is expected to be over $127.5 million.[20]

In-sourcing

For LSI Logic, it's a question of whether its business and IT units are as close as they should be. "The linkage between technology and business processes is so tight that when you outsource, somehow you get dysfunctional," says Lam Truong, CIO for the Milpitas, Calif., chipmaker. LSI cut short a five-year deal with IBM Global Services and is rehiring IS staff to implement core business processes.[21]

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[19] Nelson-Hall, December 20, 2001

[20] PR Newswire, September 12, 2001

[21] PR Newswire, September 3, 2002

IT-enabled Sourcing Services

IT-enabled sourcing services are those services that use information technology as an enabler for performing activities that include developing service designs, coordinating service deployment, and delivering services. These services are IT-intensive in nature and may be provided remotely, using telecommunication or data networks.

Market sectors where we expect the greatest growth and where we have determined the e^{scm} will pertain include:

- Banking and Finance
- Consumer Goods
- Health Care
- Hospitality
- Manufacturing
- Telecommunications
- Utilities

Some of the unique characteristics of IT-enabled sourcing services are:

- Service design and deployment activities that focus on designing the delivery process, setting up a technology infrastructure, and preparing for skills required
- Potential transitioning of the service delivery infrastructure, including personnel, from the client to the service provider prior to commencement of service delivery
- A service delivery phase which is longest in duration and is typically continuous and repetitive and
- The return of resources (people, technology, and knowledge) to a client or their designee when a sourcing engagement is completed.

Several years ago, McKinsey & Co. predicted tremendous growth in the provision of IT-enabled services over the next two decades, with an increasing number of services using information technology as an enabler [McKinsey 99]. More recently, Gartner Dataquest’s forecasts for business process outsourcing show that worldwide markets for IT services will continue to show strong growth through 2004. Of the total IT services market worldwide, opportunities for outsourcing are expected to grow at more than 19 percent compounded annual growth rate through 2004 to reach $787.9 billion from $323.6 billion in 1999. [Gartner Group 01]

Important IT-enabled sourcing services based on market potential are [Gartner Group 01, McKinsey 99]:

- Customer care (including call center outsourcing, fulfillment center outsourcing, e-support centers)
- Data capture, integration and analysis services (including data processing, data warehousing and data mining)
- Engineering services (including engineering design, architectural design, product design, geographical information systems)
- Human resource services (including back office operations and strategic HR function outsourcing)
- Information Systems outsourcing (including hardware/software maintenance, application development, network management)
- Multimedia and animation services (including content development, content management, web-sites, animation films)
- Transcription services (including medical and legal transcription services, and legal database services)

Examples of each type of service and recent, significant sourcing arrangements from recent press releases include:

Customer Care Services

> Percepta has signed a multi-year agreement with PRIMUS Financial Services, a division of Ford Credit to provide support for PRIMUS' customer inquiries regards loan terms, payoff quotes, payment arrangements and account maintenance.[22]

Data Capture, Integration, and Analysis Services

> Webclippings.com hired Digital Outsourcing Services to collect data from 16,000 websites and to compile 8 data fields into a master spreadsheet.[23]

Engineering Services

> Downer EDI Limited announced that its Mining division, Roche Mining, has signed a long-term contract with Wambo Mining Corporation Pty Ltd. The services agreement is valued at $300 million over six years.[24]

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[22] PR Newswire, January 7, 2002
[23] See www.digitaloutsource.com for case studies.
[24] Downer EDI Press Release, November 30, 2001

Human Resource Services

In a deal worth $700 million over 10 years, Exult will handle all U.S.-based payroll, the HR call center, HR information systems and support, employee data, and records management for Prudential Financials 47,000 employees.[25]

Information Systems Outsourcing

Accenture and Avasta announced that Golden State Vintners, a business-to-business supplier of wines and winemaking services, has chosen these companies to outsource their information technology capabilities.[26]

Multimedia and Animation Services

NexusCore is an audio/visual and multimedia outsourcing company that provides graphics, sound engineering, web design, and logo generation.[27]

Transcription Services

A Wall Street company hired Digital Outsourcing Services to transcribe quarterly reports, stockholder meetings, and corporate conference calls for publishing on the Internet in Q&A form.[28]

Figure 3 shows some examples of the different types of services than can be sourced. The inner circle includes examples of traditional IT sourcing services. The middle circle, which encompasses the inner circle and its services, includes examples of IT-enabled sourcing of services. The only types of sourcing services in Figure 3 that are not included in IT-enabled sourcing are the more traditional services of the outer ring, which do not currently use IT to either design or deliver their services.

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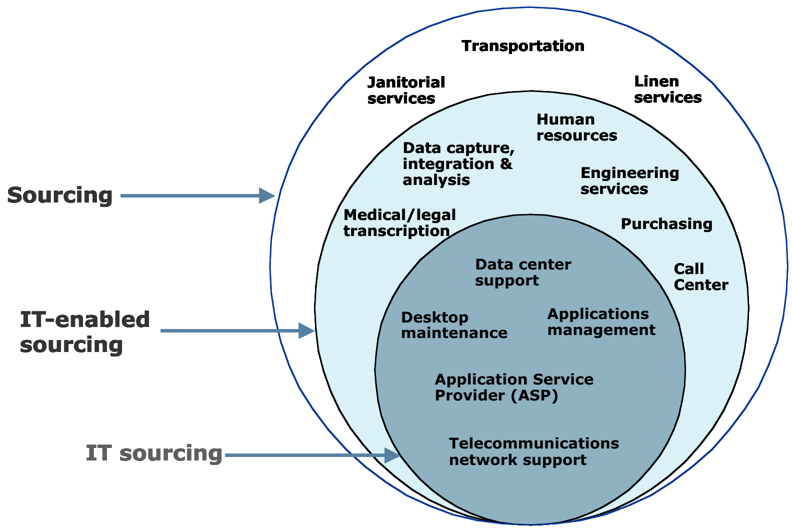
[25] Exult Press Release, January 17, 2002

[26] Accenture, Press Release, March 5, 2002

[27] www.campaigncreations.com

[28] See www.digitaloutsource.com for case studies.

Figure 3: Examples of services being sourced.



A major challenge for **e**^{scm} developers is to design the model so it is applicable and effective for use in all of these services and market sectors. To date, six pilot evaluations have been conducted in the banking and finance, healthcare and utilities market sectors. The pilots covered five services areas including applications management, customer care (call centers), engineering services, and information systems outsourcing. The model's efficacy will continue to be empirically tested over the next three to five years.

Development of the eSourcing Capability Model - e^{scm}

Intent of the e^{scm}

The intent of the e^{scm} is two-fold: (1) provide clients with an objective means for evaluating the capability of sourcing service providers; (2) provide IT-enabled sourcing service providers with a set of best practices that will help them to improve their capabilities across the sourcing process. These best practices cover the Organizational Elements of Organizational Management, People, Business Operations, Technology, and Knowledge management.

The e^{scm} is currently a best practices model, but the content and structure of the model may change over time. Data will continue to be collected from pilots as well as from the results of Evaluations for Certification and Self-appraisals. This data will provide an understanding of issues such as the order in which organizations implement the Practices and the costs and benefits from using the model. This data, together with the feedback from users of the model, will be evaluated to determine improvements needed for future versions of the e^{scm}. In addition to the intents mentioned above, the e^{scm} will:

- Focus on measuring the capability of an IT-enabled sourcing service provider for the formation, management and expansion of sourcing relationships
- Have an overarching goal of client satisfaction across all Phases of the sourcing process
- Help providers establish and manage continuously improving sourcing relationships, as well as innovate to meet changing client requirements
- Ensure the compatibility of the model with other major quality models to avoid duplication of effort
- Provide multiple appraisal methods for different purposes for both providers and clients including evaluations for certification to differentiate providers
- Become the preferred resource for best practices and capability determination methods for IT-enabled sourcing services. This includes providing a repository of benchmark practices for use by both providers and clients and
- Mitigate risk for both clients and service providers.

Approach to Model Development

The following approach was used for the development of the e^{scm} framework.

1. Existing sourcing practices were documented through an extensive literature review [Suresh 01]. Categories for best practices identified during the literature review include vendor selection, management of relationships across the sourcing process, negotiations, contract management, pricing, measuring performance, and transition and completion of sourcing relationships.
2. Interviews were conducted with clients and service providers to identify critical issues needing to be addressed by the model. These covered the formation, management, and expansion of sourcing relationships.
3. Existing quality models and standards were analyzed to understand their intent and scope. Their potential applicability to the sourcing process and critical issues of sourcing were identified.
4. A set of guiding principles was evolved to address the critical issues, keeping in mind the unique requirements of IT-enabled sourcing services.
5. Phases of the sourcing process were identified (Precontract, Contract Execution, Postcontract) as well as the need for ongoing Practices (Overall). These were used as one dimension of the model.
6. Based on the critical issues and the guiding principles, five Organizational Elements were identified: (1) Organizational Management, (2) People, (3) Business Operations, (4) Technology, and (5) Knowledge Management. They are used as a second dimension of the model. These Elements need to work as a system across the sourcing process to ensure the establishment, management and expansion of sourcing relationships.
7. A set of Practices was developed to document the capabilities (roles, responsibilities and resources) for each Organizational Element organized by sourcing Phase. In addition to the three sourcing Phases, there are critical issues that span the sourcing process. These issues were incorporated into a set of “Overall” Practices into the model. The Overall Practices are ongoing throughout the sourcing Phases. Where applicable, the Practices are complementary to existing quality models and standards (e.g., ISO 9000, SW-CMM, People-CMM, CMMI, and Malcolm Baldrige Criteria for Performance Excellence).
8. The Practices were then grouped into Capability Levels that provide a conceptual structure for continuously improving organizational performance and client relationships. The Capability Levels are: Level 1 - Initial, Level 2 - Performing to meet client requirements, Level 3 - Controlling through measurement, Level 4 - Enhancing through innovation, and Level 5 - Sustaining excellence.

9. The draft Practices and framework were reviewed and discussed with a Technical Advisory Board[29] in December 2000. Also, the team sought feedback from experienced service providers who reviewed and commented on the Practices and the framework. Their feedback was incorporated and an initial pilot test of the model and method was conducted at a U.S. call center that provided technical product support in the banking and financial sector.
10. Pilot testing of the model and evaluation for certification method was done in India in a second call center and in an engineering services provider, and in the U.S. for an IT infrastructure support organization in the healthcare domain. Results from the four pilot evaluations were used to improve and refine the model and method.
11. The technical advisory board conducted a review of the Executive Summary, Model Overview, and detailed Practice descriptions drafts during their August, 2001 meeting. Revisions based on their feedback were incorporated into each of the documents.
12. An additional briefing and review of the Framework and Practices was done at an invitational workshop conducted at Carnegie Mellon in Fall 2001. Participants in this workshop confirmed the need for the model and provided input to improve this material. This led to planning the change control process that began to be used with the release of version 1.0 in November 2001.
13. Change requests and additional pilot trials with version 1.0 of **e**^{scm} resulted in modifications to **e**^{scm} and led to this release of version 1.1 of **e**^{scm}. As part of the modifications, the model was renamed the eSourcing Capability Model from the eServices Capability Model. The new model name better reflects the fact that the model focuses on any type of sourcing relationship that uses IT as a significant enabler, not just on services delivered over a data network.

The remainder of this section presents the detailed approach and development of this capability model for IT-enabled sourcing service providers, including the identification of critical issues across the sourcing process, and an analysis of the applicability of other quality models.

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[29] The current technical advisory board is chaired by Dr. Raj Reddy and is comprised of Paul Byrnes, Bill Curtis, Betty Deimel, Shari Dove, Bill McEvily, Mark Paulk, Ronald A. Radice, Prabhuu Sinha, K. Thiagarajan, Duncan Wallace, and Jane Siegel, ex-

Modeling IT-enabled Sourcing Service Provider Capabilities

Critical Issues

Based on an extensive review of the literature [Suresh 01] and interviews with IT-enabled sourcing service providers, we found that successful sourcing necessitates a focus on: (1) the activities leading to the formation of sourcing relationships (Precontract activities); (2) service design and deployment; (3) the delivery and enhancement of the sourced services (Contract Execution activities); and, (4) transitioning outsourced services to the client or its designee during contract completion (Postcontract activities).

Critical issues were identified that fall into the “Precontract”, “Contract Execution” and “Postcontract” Phases of the sourcing process. In addition, some of these critical issues, for example management of client relationships and performance measurement, were also found to span these three Phases of the sourcing process.

Overall Critical Issues

Critical issues that span the Phases of sourcing process are grouped together as Overall. The Overall critical issues include:

- Establishing sourcing relationships with clients based on trust, especially in global sourcing
- Managing client expectations for sourcing
- Ensuring a positive client experience during face-to-face and remote interactions
- Managing multi-cultural differences, combined with organizational cultural differences, that impact the quality of interactions and therefore the overall quality of a sourcing relationship
- Ensuring the confidentiality of clients’ intellectual property
- Managing subcontractor relationships to ensure adherence to service levels
- Guarding against breakdowns in communication with the client
- Developing and maintaining an environment that improves employee satisfaction, motivation and retention, which is critical to preserving contextual knowledge and ensuring consistency and continuity of service
- Capturing and transitioning knowledge gained from different sourcing contexts
- Measuring service performance, client satisfaction, and employee satisfaction

Precontract Phase Critical Issues

The **Precontract Phase** has an overall objective of understanding client requirements and assessing capabilities to meet the requirements, in order to form effective sourcing relationships. Two major efforts occurring during the Precontract Phase are: (1) Requirements Management, which covers the exchange of information and requirements elicitation, with emphasis on formation and management of the relationship; and, (2) Contract Formulation, which covers negotiation and contract finalization. Critical issues during the Precontract Phase are:

- Establishing well-defined contracts, even with strategic partners
- Differentiating service offerings to allow clients to understand the relative capabilities of competing organizations
- Ensuring compliance with statutory requirements, especially in global sourcing
- Implementing practices to translate implicit and explicit requirements into deliverables of defined and desired quality and
- Innovating, building flexibility, and increasing responsiveness to manage shortening service lifecycles.

Contract Execution Phase Critical Issues

The **Contract Execution Phase** has an overall objective of translating client requirements into deliverables of desired quality through service design, deployment, delivery, and enhancement. Two major efforts in the Contract Execution Phase are: (1) service design and deployment, which covers the designing of services based on specified requirements and transition and/or deployment of designed service; and (2) service delivery and enhancement, which covers the delivery of the service and improvements made based on feedback and analysis of performance. Critical issues during the Contract Execution Phase are:

- Improving the understanding of the service design and deployment activities and their relationship to the quality of the end service
- Managing rapid technological shifts and maintaining technology availability, reliability, accessibility and security
- Reviewing and controlling the service design, deployment and delivery to adhere to desired service levels and

- Ensuring visibility into service design, deployment, and delivery for the purposes of controlling, managing, and reporting.

Postcontract Phase Critical Issues

The **Postcontract Phase** has an overall objective of learning from contractual experience and ensuring a positive client experience, even in instances where an engagement is terminated because of irreconcilable issues. The Postcontract Phase covers a provider's response to, and management of, contract completion. Critical issues during the Postcontract Phase are:

- Implementing management practices to transition services back to the client that ensure a positive client experience
- Measuring and analyzing reasons for occurrence of a termination
- Ensuring against reoccurrence of terminations for cause[30]
- Collecting, analyzing, and transferring knowledge gained from an engagement to the client
- Maintaining continuity in sourcing management

The ability of a service provider to address these critical issues ensures the formation of viable and mutually beneficial sourcing relationships with its clients. This is achieved by coordinated functioning of Organizational Elements across the entire sourcing process.

Elements of a Service Provider's Organization

The elements of a service provider's organization that are critical for the success of sourcing relationships include: (1) organizational management that provides direction, sets objectives, and establishes systems and procedures needed to achieve these objectives; (2) personnel policies and procedures, and appropriately skilled people to provide services; (3) business operations that focus on the design, deployment and delivery of services; (4) technology infrastructure for service-related and support

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[30]A contract may be terminated early either by the client or the service provider for cause (e.g., inability to meet service levels, negative impact on client's business) or for convenience, before the planned contract completion date.

activities; and, (5) organizational knowledge, which is the basis for controlling performance, organizational learning, and initiating improvements and innovations.

Therefore, a model for IT-enabled sourcing services should address these five Organizational Elements across the Precontract, Contract Execution, and Postcontract Phases as well as Overall or ongoing aspects of the sourcing process.

Capability vs. Maturity Modeling

The **e**[scm] has been developed as a *capability model*, rather than a *maturity model*. The distinction is an important one in order to understand

- the expected use of the model,
- what it means for a Practice to be defined at a specific Capability Level, and
- what it means for a service provider to be certified at a specific Capability Level.

The key difference is that while process capability is about predictability of process and outcomes, process maturity is about the growth in process capability and about building on one set of processes to establish another, higher maturity, set of processes. The following, taken from the CMM for Software, helps illustrate that point.

> Process capability describes the range of expected results that can be achieved by following a process. The process capability of an organization provides one means of predicting the most likely outcomes to be expected from the next project the organization undertakes. [Paulk 95, pg. 9]
>
> A maturity level is a well-defined evolutionary plateau toward achieving a mature process. Each maturity level provides a layer in the foundation for continuous process improvement. Each level comprises a set of process goals that, when satisfied, stabilize an important component of the process. Achieving each level of the maturity framework establishes a different component in the process, resulting in an increase in the process capability of the organization. [Paulk 95, pg. 15]

The fact that the **e**[scm] is defined as a capability model means that each Capability Level has Practices that, together, define a predictable set of processes and outcomes. An organization at Capability Level 2, for example, is predictably able to meet client requirements, provided those requirements do not vary significantly from the organization's experience. An organization at Capability Level 3 is predictably able to meet client requirements and measure and control its activities across multiple client engagements. An organization at Capability Level 4 is predictably able to respond to changing business environments and deliver innovative services.

Since maturity models have well-defined plateaus of process maturity, organizations are expected to implement lower level practices before beginning to implement higher-level practices. Capability models allow organizations to implement practices from different levels simultaneously. For instance, an organization using the **e**^{scm} may decide to create a capability baseline, a Level 4 Capability, for its service delivery processes before it has implemented all of the Capability Level 2 Practices. The organization may choose to do this for a variety of reasons, including competitive pressures or specific client requirements for demonstrating measurable improvement. The important thing for users of the **e**^{scm} to recognize is that, since the **e**^{scm} is a capability model and not a maturity model, it is possible to implement Practices in a higher Capability Level before implementing all Practices in a lower Capability Level

There is currently not enough empirical data to warrant structuring the **e**^{scm} Practices into a maturity model framework. However, as additional data are gathered about how this model is implemented, and which Practices are clear prerequisites to other Practices, the **IT**^{sqc} may determine that it is appropriate to expand future versions of the **e**^{scm} into a maturity model framework.

An Analysis of Quality Models and Their Applicability to IT-enabled Sourcing Services

To determine whether a new quality model was needed, and the extent to which the existing process and system quality models and standards address the critical issues in IT-enabled sourcing, a comparative analysis of other quality models and standards was conducted. This section summarizes this analysis.

The **e**^{scm} development team analyzed the principles and frameworks underlying the prevailing process and system quality models and examined their applicability to the identified issues in IT-enabled sourcing services. The models and standards analyzed included: (1) the family of Capability Maturity Models® (CMM®) developed by the Software Engineering Institute, including Software CMM® (SW-CMM®), People

Capability Maturity Model® (People CMM®), and CMM Integrated (CMMI℠) [CMMI 02]; (2) the International Organization for Standardization's (ISO) family of models, including ISO 9000 and ISO 15504 [ISO 15504 98]; (3) the Malcolm Baldrige Criteria for Performance Excellence; and, (4) Six Sigma™[31] [Six Sigma 00]. Each of these models and standards are briefly discussed below.

Capability Maturity Model Family of Models

The CMM for Software is designed to guide software organizations in performing software process improvement by determining current process maturity and by identifying the issues most critical to software quality and continuous process improvement. The Software Acquisition CMM and the People CMM provide guidance to software organizations in managing the acquisition of software intensive systems and managing people's performance and development. The People CMM has been applied to disciplines other than software.

To implement process improvement in all organizational processes such as development, acquisition and management of people, an organization needs to implement multiple quality models. The CMM Integration (CMMI) effort addresses the above issue by integrating multiple discipline-specific process areas into one common framework. While covering many issues critical to process improvement for software development, the CMM/CMMI models do not address all the processes critical to IT-enabled sourcing services. In particular, these models do not provide complete coverage on the processes that occur prior to finalization of a contract with specified requirements and the processes that occur after services are designed and deployed (e.g., installation, delivering services on a continuous basis), and on Postcontract processes.

[31] Trademark of Motorola, Inc.

The International Organization for Standardization (ISO) Family of Quality Management Models

The ISO 9000:2000 standard specifies requirements for a quality management system where an organization needs to: (1) demonstrate its ability to consistently provide products that meet customer and applicable regulatory requirements; and, (2) address customer satisfaction through the effective application of the system, including processes for continuous improvement and the prevention of nonconformity. The ISO 9000 series addresses contracting to the limited extent that the contract should be reviewed by the organization before acceptance. ISO addresses the Contract Execution Phase from a quality management system perspective. However, the activities and issues critical to IT-enabled sourcing services in the Precontract Phases and the Postcontract Phases are not addressed explicitly. Interpretations of ISO 9000 standards also vary widely depending on the business context.

ISO has developed the ISO 15504 in order to address the need for an international standard for software process assessment. It is based on process improvement concepts similar to the CMM family of models and therefore does not address all the critical issues in IT-enabled sourcing services.

Baldrige Criteria for Performance Excellence

The Baldrige Criteria for Performance Excellence 2002 is based on a set of seven criteria made of core values and concepts that are represented as two triads. The Leadership triad is comprised of sets of criteria for leadership, strategic planning, and customer and market focus. The Business Results triad includes sets of criteria for human resource focus, process management, and business results. Both triads are based on the foundation of information management and analysis. The use of the criteria for assessing and improving capabilities in the rapidly evolving IT-enabled sourcing service sector is limited since it does not provide specific practices to address the critical issues in the various Phases of the sourcing process. Further, the Malcolm Baldrige National Quality Award recognizes performance excellence only for organizations that are based in the U.S.A.

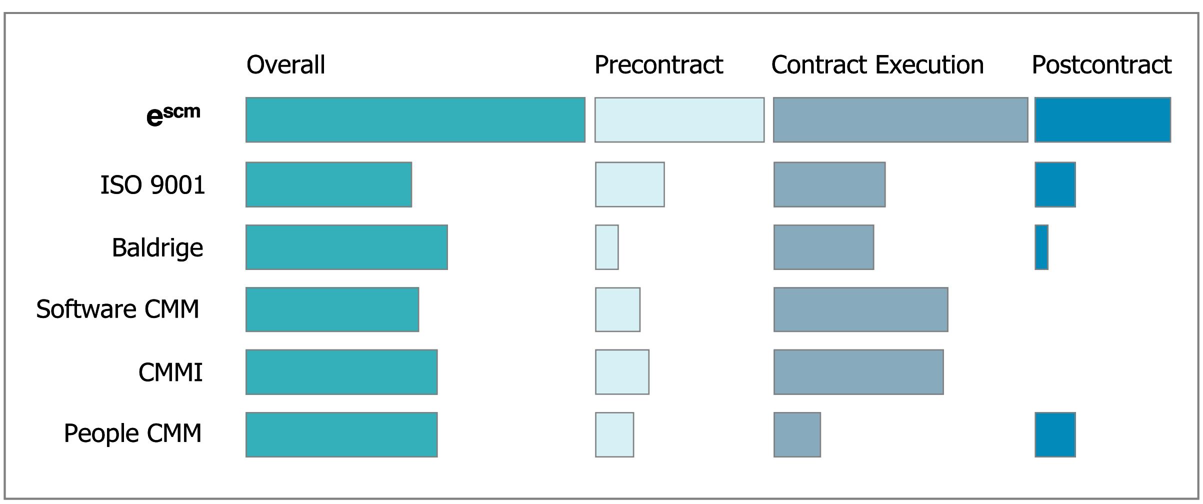
Six Sigma™

The Six Sigma™ approach provides methods and infrastructure to implement principles of Statistical Process Control in order to achieve defect rates of as low as 3.4 defects per million opportunities, i.e., achieve a process capability of 6σ. The approach is primarily aimed at reducing waste in the business processes of an organization, and takes a project-based view of the organization rather than a system view. Therefore, the Six Sigma™ approach could be used to improve specific activities within the sourcing process.

Conclusion

Individually, and as a whole, the existing quality models reviewed do not address all the issues in a sourcing process. Also, these models do not readily provide methods to assess capabilities of IT-enabled sourcing service providers to establish, manage, and improve sourcing relationships with clients. These models either emphasize a level of structure that may interfere with success in a sourcing context, where flexibility and adaptability are important or, are so generic that their interpretation and usage varies significantly. Figure 4 provides a high-level graphic indication of comparative model coverage. A more detailed description of the comparative coverage with **e**^{scm} Practices is shown in Appendix A.

Figure 4: Comparative Model Coverage.



The next section discusses the $\mathbf{e}^{scm}$ guiding principles that were derived from the critical issues. Also, the model framework and the Capability Levels are documented and explained.

The eSourcing Capability Model - e^{scm}

Guiding Principles for the e^{scm}

Seven principles form the foundation for the Practices defined in the e^{scm} framework. These principles evolved based on the critical issues identified and they address the impact of these issues on a service provider's capability. Use of these principles helps providers to continually improve their performance by focusing on building strong client relationships and addressing all stakeholder needs. These principles characterize the behavior of capable IT-enabled sourcing service providers and were used as guidance for defining the Practices of the e^{scm}. Each principle, its purpose, and its interrelationships in IT-enabled sourcing service business are summarized below.[32]

1. Adopting a systems perspective

To effectively achieve organizational goals and objectives providers need to identify, understand and manage a system of interrelated Organizational Elements across the Phases of sourcing. The principle of a systems perspective provides a foundation for the establishment of the other six principles.

2. Building confidence and trust with all stakeholders

Providers need to build a culture of openness that instills confidence in their stakeholders. This promotes the ability to establish and nurture mutually beneficial and trusting relationships with external stakeholders. Multi-national and organizational cultural differences between the provider and its clients, and cultural differences within the provider may impact the quality of interactions and the overall quality of the sourcing relationships. Building confidence with stakeholders allows better management of these cultural differences. Building confidence and trust also facilitates a coordinated service design, deployment and delivery that match well with the users' context and

[32] Terms used in this model are defined in the Glossary of this document.

requirements. Additionally, building confidence and trust may promote a culture of innovation.

3. Communicating effectively with all stakeholders

Providers need to communicate effectively with stakeholders. Stakeholders include clients, business partners, subcontractors, vendors, investors, the business environment and employees. Communication is a vital link between the various Organizational Elements and it helps enable the achievement of organizational objectives through the Elements' coordinated functioning. Open communication fosters sharing of client and end-user related knowledge across the organization.

4. Managing by measuring

Providers need to manage their organizational operations by identifying and utilizing measures or indicators that best represent the factors that lead to improved client, operational and financial performance. Information (facts) forms the basis for understanding both the system and procedural performance needed to guide improvements. Analyzing information generated internally as well as collected from external sources helps in predicting and managing problems.

5. Enhancing value to all stakeholders

A provider's competitive advantage depends on its capability to provide continually increasing value to its stakeholders. This is achieved by establishing a challenging environment that promotes performance across all Phases of the sourcing process.

6. Fostering a responsive and innovative culture

Providers need to create value for stakeholders in an ever-changing, highly competitive business environment. Providers should be structured so that responsiveness to client and business requirements and innovation become a part of their culture and daily work.

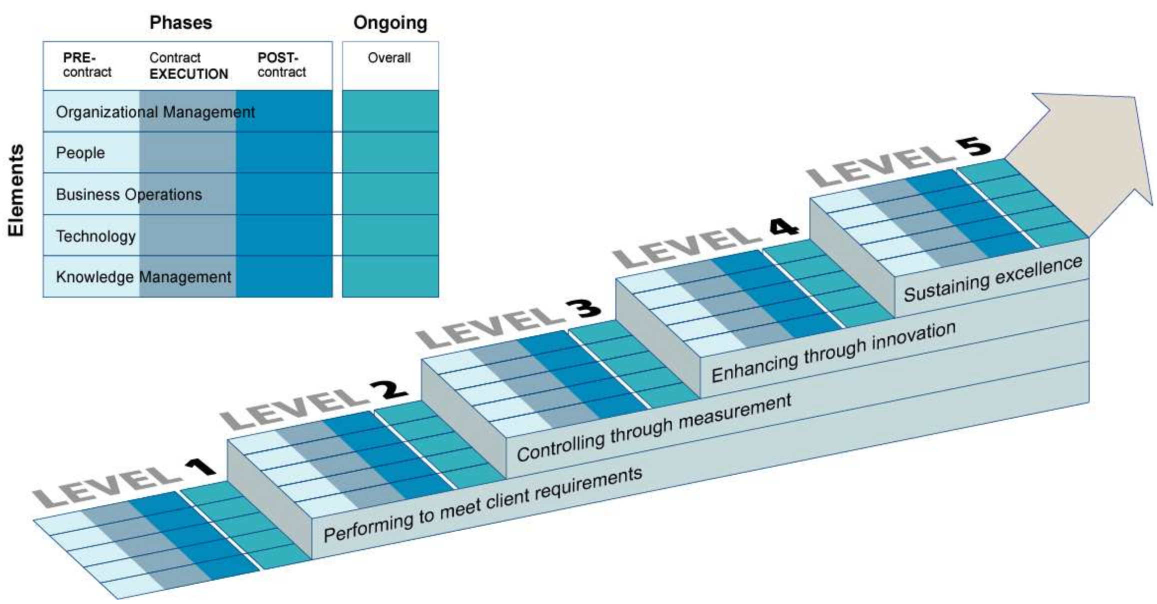
7. **Improving continuously and being client-centered**

Providers need to retain and increase their customer base by continually enhancing their service capability. This is achieved by aligning organizational objectives with changing needs of the clients.

The e^scm Framework

The e^scm contains 93 Practices organized into three dimensions: (1) Phases of the sourcing process (Precontract, Contract Execution, and Postcontract); (2) Organizational Elements; and (3) Capability Levels. A schematic of the e^scm framework is presented in Figure 5. Following this figure is a more detailed explanation of the e^scm framework, including the Phases, Organizational Elements, and Capability Levels.

Figure 5: Overview of e^scm Phases, Elements, and Capability Levels.



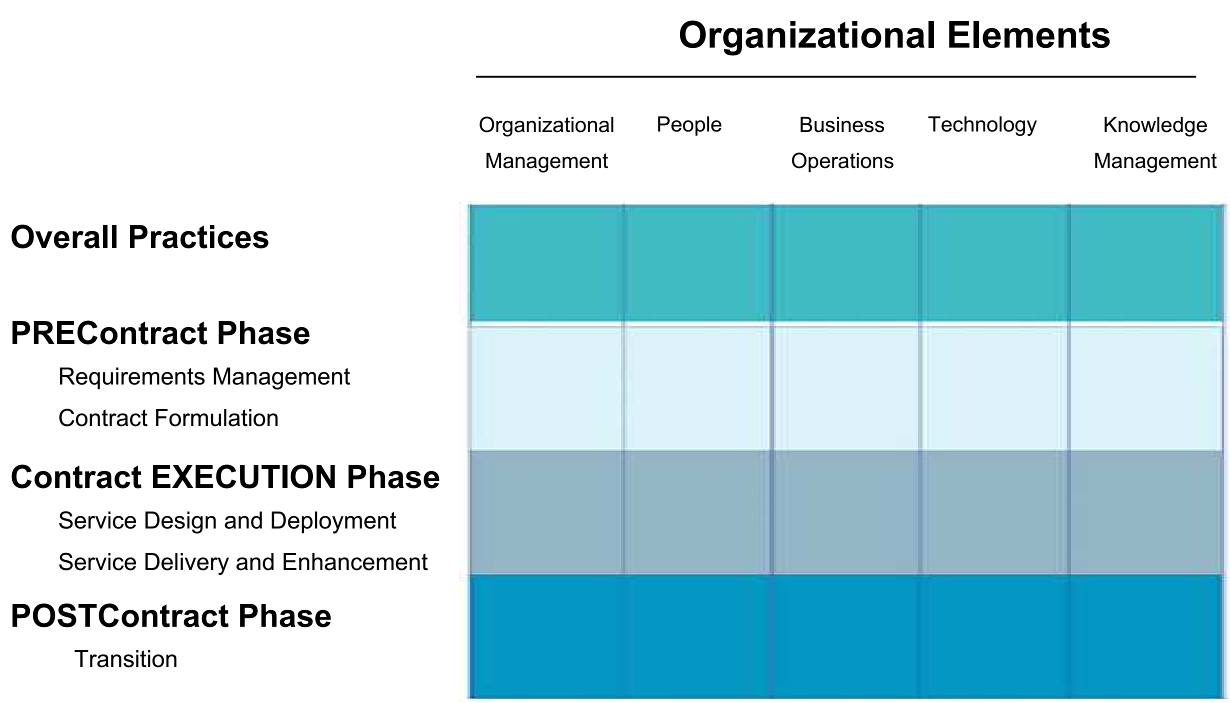
Practices

The 93 Practices of the e^scm address the critical capabilities for IT-enabled sourcing service providers. Based on the guiding principles, Practices are defined for each Organizational Element to address the critical issues for IT-enabled sourcing services. In addition, these Practices are grouped into sets that represent the Capability Levels of the IT-enabled sourcing service providers. Practices may characterize implementing or institutionalizing a particular process.

Phases of the e^{scm}

Practices are defined for as Overall Practices or Phase-specific Practices. Overall Practices span the entire sourcing process, since their applicability is not limited to a specific Phase. The Overall Practices include implementation and institutionalization of: (1) overall organizational direction, policies, procedures, resource planning and reviews; (2) personnel management and aspects of personnel motivation/growth; (3) remediation and preventive actions in business operations; (4) technology management and disaster recovery; and, (5) measurement and analysis for performance improvement and knowledge sharing. The Phase-specific Practices reside at the intersection of an Organizational Element with a Phase.

Figure 6: e^{scm} Framework: Phases and Elements



Precontract Phase has an objective of understanding client requirements and assessing capabilities to meet the requirements, in order to form sourcing relationships. Two major efforts occur in the Precontract Phase: (1) requirements management and (2) formulation.

Requirements Management activities include:

- Discovery – the exchange of information and requirements between clients and providers with an emphasis on relationship building and relationship management and
- Requirement Specification – the elicitation and documentation of implicit and explicit client requirements.

Contract Formulation activities includes:

- Negotiation about deliverables, service levels, pricing, and control points and
- Contract Finalization – incorporating the outcome of negotiation efforts into a formal contract.

Contract Execution Phase has an objective of translating client requirements into deliverables of desired quality through service design, deployment, and delivery. Two major efforts occurring in the Contract Execution Phase are: (1) service design and deployment and (2) service delivery and enhancement.

Service Design and Deployment includes:

- Service design – the service is designed based on specified requirements and
- Transition and/or deployment of the designed services either at the client's or at the provider's site. The latter situation may involve transition of assets such as technology to or from the client.

Service Delivery and Enhancement includes:

- The service being delivered according to client requirements
- Obtaining client feedback and
- Enhancing the service and its delivery process, as necessary, during the tenure of a service engagement.

Postcontract Phase has an objective of learning from contractual experiences and ensuring a positive client experience even in adverse circumstances. Postcontract Transition efforts include:

- Contract Completion – occurs due to either premature termination or normal contract completion (i.e., based on expiration of the contract) and includes the handing over of all contract-related assets to the client. It may be necessary to maintain service levels during this transition.

Organizational Elements in the e^scm^

IT-enabled sourcing service providers' operations are comprised of interdependent elements. These Organizational Elements are required to function in a dynamic environment as a coordinated system across the sourcing process. The **e^scm^** addresses five Organizational Elements with respect to their contribution to the formation, management and expansion of sourcing relationships. The Organizational Elements of the **e^scm^**, are summarized below:

<u>Organizational Management</u>

Organizational Management involves coping with a unique set of challenges in the highly dynamic, and increasingly global, IT-enabled sourcing services business. Leaders need to establish clear organizational objectives and manage achievement of those objectives through use of measures, improvement programs, and management discipline. Organizational leadership needs to establish systems for effective governance as well as communication and client relationship management. Roles that may be associated with the Organizational Management Element include: visionary leaders, team builders, and implementers.

<u>People</u>

The quality of personnel is a key determinant of service capability and service quality in the IT-enabled sourcing services business. Knowledge is an important source of competitive advantage to a provider and it is manifested through its people. To motivate continuous improvement of the workforce, specifically when the members of the workforce are not interchangeable, a provider needs to perceive its people as important contributors and manage them accordingly. To remain competitive in the face of rapid technological shifts, leaders need to rapidly develop, and also retain, organizational competencies through development of its people.

Business Operations

Business Operations refers to coordinated working of organizational functions and resources, people, and technology, for the purpose of delivering a service to a client. To become a supplier of choice, a provider's Business Operations must adhere to a specific sequence of steps, with documentation of procedures and requirements, including well-defined measurement and control mechanisms. Well-managed operations improve client retention and referral rates.

Technology

Technology plays an important role in the IT-enabled sourcing services business as an enabler for service design, development and delivery. The quality and availability of technology determines a provider's capability to instill confidence in its clients regarding service capability, security and reliability. It also helps a provider to provide an effective work environment for its personnel.

Knowledge Management

Knowledge management is a function in which a provider consciously and comprehensively gathers, organizes, refines, analyzes and disseminates its knowledge to further its objectives. Information and its analysis are critical to effective management and to establishing a fact-based system for improving provider performance and competitiveness.

Levels of Capability

The five Capability Levels of **e**scm describe an improvement path that clients should expect service providers to travel, from a low level characterized by difficulty in delivering a service that meets client requirements for an engagement, up to the highest level of enhancing value for all engagements through continuous, sustained innovation. The five Capability Levels in this improvement path are: Level 1 – Initial, Level 2 – Performing to meet client requirements, Level 3 – Controlling through measurement, Level 4 – Enhancing through innovation, and Level 5 – Sustaining excellence. Figure 5 provides a summary view of the Capability Levels.

At the Initial Level, service providers generally improvise service delivery and do not have a complete set of management practices in place. Because of the associated risk, clients may never achieve expected results from the sourcing effort either in the form of financial benefits or business value. In fact, a sourcing experience with a high-risk service provider could result in higher costs and lost business opportunities for the client.

In contrast, even with a limited level of capability, a service provider has formalized procedures for capturing requirements and delivering the service according to commitments made to clients. With increasing capability such a provider is able to continuously learn from experience, measure and control its activities, and proactively respond to changes in the external or internal business environment.

For a capable service provider, client satisfaction is a key driver. The provider's established procedures, people, and technology infrastructure are continuously monitored, managed and improved, always striving to provide enhanced value to clients. Innovative personnel, the latest technology and a sound understanding of their clients and end-users are typical characteristics of such service providers. Setting realistic expectations, completing contracts within budget and on time, and a disciplined approach to delivering service are some additional operational characteristics of such a service provider.

The following sections provide an overview of the characteristics of service providers at each of the Levels of Capability specified in the **e**^{scm}.

e^{scm} Level 1 - Initial

At Capability Level 1, service providers have not implemented all the Level 2 Practices. They operate without formalized systems and procedures, and even if a procedure has been specified, it is not always rigorously followed or enforced. Frequent crises, exceeded budgets and missed schedules are some of the other operational characteristics of such a service provider. Service providers at the Initial Level are often unable to effectively address their clients' requirements. Working with these organizations carries a high degree of risk and may eventually lead to the defeat of the very purposes of sourcing: increasing financial benefits or adding business value.

A Level 1 service provider's senior management may not be exposed to, or does not understand, the key problems and issues faced by their own organization. Frequent crises, exceeded budgets and missed schedules are some of the other operational characteristics of such a provider. Thus, a Level 1 service provider is almost always unable to effectively address its clients' requirements. In rare instances, personnel may deliver acceptable service as a result of luck or heroics. This Level is included in the **e**^{scm} framework to provide a basis for comparing service provider characteristics at higher Capability Levels. There are no Practices at Capability Level 1.

e^{scm} Level 2 – Performing to Meet Client Requirements

At Capability Level 2, a service provider has formalized procedures for capturing requirements and delivering the service according to commitments made to clients. Providers are able to deliver specific services according to stated client expectations, provided the services do not significantly vary from the provider's experiences. The focus of Capability Level 2 is on achieving required results at the engagement level. The Practices needed to achieve the set of capabilities for an organization at Level 2 are based on the following principles of the **e**^{scm}:

- **Adopting a systems perspective** to provide a coordinated functioning of the Organizational Elements in order to deliver services required to meet stated client requirements.
- **Building confidence and trust with all stakeholders** to facilitate coordinated design, deployment and delivery of service.
- **Communicating effectively with all stakeholders** with an emphasis on (1) clear definition of roles and responsibilities of the provider and the client, (2) clarity of communication between the client interaction team and the service design and deployment team, and (3) communication of service expectations to subcontractors and vendors.

Based on the guiding principles, the Organizational Elements work as a system at Level 2 to achieve the following:

- **Organizational Management Element:** establish formal guidance for contracting and pricing; ensure service continuity through potential disasters; and manage risks specific to client engagements.

- **People Element** develops and provides for personnel competencies needed to meet client requirements; and facilitates the transfers of personnel between the client and service provider.
- **Business Operations Element** establishes clear objectives for each client engagement; facilitates the capture and translation of implicit and explicit requirements into deliverables of desired quality; builds flexibility into contracts to address changes in client's priorities; ensures compliance with applicable statutory requirements, facilitates the selection development and nurturing of subcontractors or vendors as needed; defines and measures service levels; ensures adherence to desired levels of confidentiality and security; addresses transition management issues including effects on people and business partners; ensures a positive experience to clients during face-to-face and remote interactions; and tracks and controls changes made to service components.
- **Technology Element** ensures the provision of reliable, accessible, and secure technology.
- **Knowledge Management Element** provides effective and efficient access to required information and the expertise necessary to deliver committed services.

At Level 2, the service provider is able to systematically capture and understand client requirements, design and deploy a service to meet the requirements, and successfully deliver the service according to agreed upon service levels. The service provider supports this capability through training and/or acquiring personnel as required; making available necessary infrastructure (including technology) for meeting client requirements; and collecting and disseminating information required to control and track the service delivery. A provider at Level 2 has a minimum set of capabilities achieved through the implementation and institutionalization of 51 Practices that are spread across the sourcing Phases in the five Organizational Elements.

e^scm Level 3 – Controlling through Measurement

Providers at Capability Level 3 have implemented all Level 2 and Level 3 Practices. Providers at Level 3 are capable of delivering services according to stated client requirements, even if the required services differ significantly from the provider's experience. The focus of Capability Level 3 is on establishing and sharing best practices across multiple engagements. The Level 3 Practices build on the Level 2 principles, as well as provide an increased emphasis on measurement.

- **Communicating effectively with all stakeholders** with an emphasis on sharing client and end-user related knowledge within the provider's organization;
- **Building confidence and trust with all stakeholders** is facilitated through efforts to identify and bridge cultural gaps between the provider and its clients; and,
- **Managing by measuring** the performance of the established procedures and practices, with an emphasis on controlling performance and correcting identified problems.
- **Improving continuously and being client-centered** is achieved by aligning organizational objectives with changing needs of the clients and continuously enhancing service capability.

Based on the guiding principles, the five Organizational Elements work as a system at Capability Level 3 to achieve the following:

- **Organizational Management Element** facilitates bridging cultural differences; facilitates the use of measures for managing and improving organizational performance; defines a systematic approach towards planning and providing adequate resources; facilitates a systematic approach towards assessing and managing risks across client engagements; and, implements a factual approach to reviewing and verifying the organization's performance.
- **People Element** encourages the formation and functioning of inter-functional teams during requirements specification and negotiations; facilitates participation of individuals in decision making; objectively appraises and rewards performance of employees and teams; and, provides for a systematic approach to individual learning for both organizational and career development purposes.
- **Business Operations Element** facilitates a systematic approach towards preventing service problems and responding to service failures; formalizes the service design, deployment and design review procedures; and, ensures continuity of service during contract completion.
- **Technology Element** facilitates optimization of the technology infrastructure across client engagements to meet all client requirements efficiently.
- **Knowledge Management Element** facilitates internal transitioning of organizational learning based on previous client engagements and different sourcing contexts; facilitates reuse of work products as appropriate; gathers and analyzes data on end-users, clients and prospective clients; and, supports factual decision-making to mitigate risks and achieve competitive advantage.

At Capability Level 3, the service provider is able to objectively measure and control its activities; proactively understand targeted market services and their varying requirements, including specific cultural attributes; identify and manage risks across engagements; design and deliver services based on established procedures; and verify its activities. The provider supports this capability through sharing and using knowledge gained from previous engagements; objectively measuring and rewarding personnel performance; and monitoring and controlling technology infrastructure.

Having established systems for forming and managing client relationships, providers at Capability Level 3 continuously aim to improve the services delivered. Improvements are reactive and are typically generated from the defined measurement and verification activities. At Level 3, in addition to the Practices of Level 2, the provider implements and institutionalizes another 31 Practices that are spread across the sourcing Phases for the five Organizational Elements.

e^{scm} Level 4 – Enhancing though Innovation

Providers at Capability Level 4 have Practices implemented at Levels 2, 3, and 4. Providers at Level 4 are able to continuously enhance their capability to meet evolving client requirements. The Practices needed to achieve the set of capabilities for an organization at Level 4 build on principles covered at Capability Levels 2 and 3, as well as provide a focus on innovation and improvement:

- **Building confidence and trust with all stakeholders** also promotes an environment that supports innovation.
- **Enhancing value to all stakeholders** through innovation.
- **Fostering a responsive and innovative culture** allows the service provider to differentiate its offering through innovative and customized service offerings.
- **Improving continuously and being client-centered** helps retain and increase the service provider's customer base by continually enhancing service capability and quality.

Based on the guiding principles, the Organizational Elements work as a system at Capability Level 4 to achieve the following:

- **Organizational Management Element** provides an environment that proactively identifies value creation opportunities; establishes programs to systematically improve organizational performance and capabilities; objectively determines capability baselines through measurement and analysis of organizational performance; and facilitates benchmarking as a means of continuous improvement.

- **People Element** implements programs to have an empowered, motivated, and innovative workforce, and analyzes the effectiveness of training.
- **Business Operations Element** proactively identifies potential problems and implements actions to prevent their occurrence.
- **Technology Element** builds capabilities to keep pace with and anticipate rapid changes in technology.
- **Knowledge Management Element** encourages systematic sharing of knowledge across stakeholders and management of knowledge transfer to clients.

At Capability Level 4, the service provider is able to customize its approach and service for clients and prospective clients; understand client perceptions; and predict its performance based on previous experiences. The provider supports this capability through giving personnel freedom to choose innovative approaches in achieving organizational objectives and providing opportunities for professional development; systematically evaluating and incorporating technology advances; and setting performance goals from a comparative analysis of its current performance, as well as from internal and external benchmarks.

Enhancements are proactive and are typically generated from the provider's benchmarking of its performance. Enhancements are systematically planned, implemented and controlled. At Capability Level 4, in addition to the Practices of Level 2 and Level 3, the provider implements and institutionalizes another 11 Practices that are spread across the sourcing process for the five Organizational Elements. Providers at Capability Level 4 continuously enhance their activities and add value to their clients.

e^scm Level 5 – Sustaining Excellence

Providers at Capability Level 5 have all the Practices implemented at Level 2, Level 3 and Level 4. Demonstration, over a defined period of time, of sustained value enhancement for stakeholders (during two consecutive Evaluations for Certification) leads to a service provider achieving the capability of 'Sustaining Excellence' – Level 5. The focus of Level 5 is not only on the maintenance of 93 practices but also on the service provider's demonstrated long-term commitment to continuously enhancing value to their clients.

Figure 7 shows the distribution of Practices in the **e**scm in terms of the Phases, Organizational Elements and Capability Levels. In the next section of this document we provide a table of all the Practices in the **e**scm.

Figure 7: Distribution of Practices.

Level	Phase	Organizational Management	People	Business Operations	Technology	Knowledge Management	Totals
4	Overall	• • • • •	• •	•	•	•	11
	PREcontract						
	Contract EXECUTION						
	POSTcontract					•	
3	Overall	• • • • • • •	• • • • • • •	•		• • • • • • •	31
	PREcontract	•	•			•	
	Contract EXECUTION	•		• • •	•		
	POSTcontract			•			
2	Overall	• • • •	• • • •	• • • • • • • •	• • • •	•	51
	PREcontract	• •	•	• • • • •			
	Contract EXECUTION	• •	• •	• • • • • • • • • • • • •	•	•	
	POSTcontract		•	• •			
Totals		22	18	34	7	12	93

The e^{scm} Practices

The Practices in the e^{scm}, are listed by Element in Table 1.[33] The Practices are displayed for each of the five Organizational Elements and are grouped as Overall or within the three Phases. Detailed Practice descriptions for each Practice of the e^{scm} are provided in Part Two of this document. A Glossary of terms used in the Practices is provided at the end of Part Two. To facilitate use of the Practices we have also provided a list of the Practices sorted by Capability Level and by Phase in Appendix B.

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[33]Institutionalization Practices identifiers are always shown in italics throughout this document to aid in distinguishing these important Practices.

Table 1: Practices Listed by Element.

ID	Practice
Organizational Management	
org_over_1_3	Define and communicate organizational objectives.
org_over_2_2	Establish and implement policies on security, confidentiality and protection of intellectual property.
org_over_3_2	Establish and implement a policy on risk management.
org_over_4_2	Identify and provide adequate resources for performing service-related and support activities.
org_over_5_3	Define and communicate the roles, responsibilities, and authority of personnel in the organization.
org_over_6_4	Establish and implement programs to achieve organizational objectives.
org_over_7_3	Establish and implement procedures to capture and analyze performance measures.
org_over_8_4	Define capability baselines for the organization by analyzing performance data.
org_over_9_4	Benchmark organizational performance against comparative data from external and internal sources.
org_over_10_3	Establish and implement procedures to periodically review the organization's performance.
org_over_11_4	Establish and implement procedures to verify whether organizational programs are being executed as planned.
org_over_12_3	Establish and implement procedures to manage client relationships.
org_over_13_2	Establish and implement disaster recovery procedures.
org_over_14_3	Establish and implement procedures to manage risks across client engagements.
org_over_15_4	Proactively identify value creation opportunities and communicate them to the client.
org_over_16_3	Make improvements based on reviews of organizational performance.
org_pre_1_3	Establish guidelines for negotiations with current or prospective clients.
org_pre_2_2	Establish guidelines for pricing services.
org_pre_3_2	Establish and implement procedures to create and amend contracts.
org_exe_1_2	Establish and implement procedures to communicate the client's requirements from the client interaction team to the service design and deployment team.
org_exe_2_3	Identify cultural attributes that impact the service, and implement actions to achieve a cultural fit.
org_exe_3_2	Identify, assess, and manage risks specific to executing the contract.
People	
ppl_over_1_4	Establish and implement a policy to encourage and support innovation and entrepreneurship across the organization.
ppl_over_2_3	Identify the workforce competencies needed to achieve organizational objectives.
ppl_over_3_3	Develop the workforce competencies needed to achieve organizational objectives.
ppl_over_4_2	Assign roles and responsibilities to personnel based on appropriate personnel competencies.

Table 1: Practices Listed by Element (continued)

ID	Practice
People (continued)	
ppl_over_5_3	Establish and implement procedures to plan and deliver training.
ppl_over_6_2	Meet identified personnel competency needs by providing training.
ppl_over_7_2	Establish and maintain a work environment that enables personnel to work effectively.
ppl_over_8_3	Establish and implement a policy to provide personnel with opportunities for career development.
ppl_over_9_3	Establish and implement a policy on the participation of personnel in decisions that affect their work commitments.
ppl_over_10_3	Establish and implement procedures to appraise individual and team performance.
ppl_over_11_3	Establish and implement a reward program that encourages the achievement of organizational objectives.
ppl_over_12_2	Assign a team to interact with the client.
ppl_over_13_4	Analyze the effectiveness of the training in achieving its intended objectives.
ppl_pre_1_3	Assign a team to understand the prospective client’s requirements and position the organization’s capabilities.
ppl_pre_2_2	Assign a team to negotiate with clients.
ppl_exe_1_2	Assign a team to design and deploy the service according to client requirements.
ppl_exe_2_2	Establish and implement procedures to manage the transfer of personnel and skills from the client during transition and contract execution.
ppl_post_1_2	Establish and implement procedures to manage the transfer of personnel and skills to the client during contract completion.
Business Operations	
ops_over_1_2	Define and communicate engagement objectives.
ops_over_2_2	Establish and implement procedures to measure and verify that process and service commitments are satisfied.
ops_over_3_2	Establish and implement procedures to select subcontractors and vendors based on their ability to meet identified requirements.
ops_over_4_2	Monitor the performance of subcontractors and vendors against their commitments, and take appropriate action.
ops_over_5_2	Establish and implement procedures to document interactions with clients.
ops_over_6_3	Establish and implement procedures to prevent reoccurrence of identified problems.
ops_over_7_4	Proactively identify potential problems and implement actions to preclude their occurrence.
ops_over_8_2	Establish and implement procedures to meet security and confidentiality requirements.
ops_over_9_2	Establish and implement procedures to protect the intellectual property of stakeholders, as appropriate.
ops_over_10_2	Establish and implement procedures to comply with statutory and regulatory requirements.

Table 1: Practices Listed by Element (continued)

ID	Practice
<u>Business Operations (continued)</u>	
ops_pre_1_2	Establish and implement procedures to gather a client's requirements.
ops_pre_2_2	Prior to committing to the prospective client, review requirements and ensure that the organization can meet them.
ops_pre_3_2	Establish and implement procedures to respond to the requirements of a prospective client.
ops_pre_4_2	Prior to and during negotiation, identify topics requiring client agreement.
ops_pre_5_2	Define the roles and responsibilities of the organization and the client with respect to the proposed contract.
ops_exe_1_3	Establish and implement procedures to design and deploy the service to meet client requirements.
ops_exe_2_2	Develop a plan to design and deploy the service.
ops_exe_3_2	Track service design and deployment activities against the plan at designated intervals.
ops_exe_4_2	Develop the service specification.
ops_exe_5_2	Design the service based on the service specification.
ops_exe_6_3	Establish and implement procedures to respond to potential failures in the delivery of service.
ops_exe_7_2	Establish and implement procedures to obtain feedback from the client on the designed service, and to incorporate necessary changes.
ops_exe_8_2	Establish and implement procedures to verify and account for resources transferred from the client to the organization.
ops_exe_9_2	Establish and implement procedures to monitor service quality based on the quality specification, and take corrective action as appropriate.
ops_exe_10_2	Establish and implement procedures to apply version control and change control to the service components.
ops_exe_11_2	Establish and implement procedures to make modifications to services.
ops_exe_12_2	Establish and implement procedures to train clients and end-users, as appropriate.
ops_exe_13_3	Establish and implement procedures to review and verify the service design.
ops_exe_14_2	Deploy the service based on the design.
ops_exe_15_2	Plan and deliver the service according to the service design.
ops_exe_16_2	Track the service delivery activities against the delivery plan, and take corrective action as appropriate.
ops_post_1_2	Establish and implement procedures to hand over resources during contract completion.
ops_post_2_3	Establish and implement procedures to ensure the continuity of service during contract completion.
ops_post_3_2	Obtain and analyze client feedback during contract completion.

Table 1: Practices Listed by Element (continued)

ID	Practice
Technology	
tech_over_1_2	Establish and implement procedures to acquire, deploy, and upgrade technology.
tech_over_2_2	Establish and implement procedures to manage the security of the technology infrastructure.
tech_over_3_2	Establish and implement procedures to track and control changes in the technology infrastructure.
tech_over_4_2	Establish and implement procedures to manage technology licenses.
tech_over_5_4	Establish and implement procedures to proactively identify and introduce appropriate technology.
tech_exe_1_2	Establish and implement procedures to integrate an organization's technology infrastructure with that of the client, as appropriate.
tech_exe_2_3	Optimize the overall performance of the technology infrastructure needed to deliver all services.
Knowledge Management	
km_over_1_4	Establish and implement a policy to share knowledge among stakeholders.
km_over_2_2	Identify, control, and provide the information required to perform service-related and support activities.
km_over_3_3	Establish and implement a knowledge system to identify, control and disseminate information.
km_over_4_3	Analyze and use knowledge gained from client engagements.
km_over_5_3	Identify and reuse work products.
km_over_6_3	Analyze competencies used and developed throughout the sourcing process.
km_over_7_3	Analyze and use knowledge about clients and end-users.
km_over_8_3	Analyze and use feedback from clients and other stakeholders throughout the sourcing process.
km_over_9_3	Analyze the perceptions that current and prospective clients have about the organization and its services.
km_pre_1_3	Analyze and use market information about prospective clients.
km_exe_1_2	Establish and implement procedures to capture and analyze data on resources consumed during contract execution.
km_post_1_4	Establish and implement procedures to transfer to the client, during contract completion, the knowledge gained from the specific client engagement.

Institutionalization Practices

Institutionalization Practices are those Practices that provide a foundation or support infrastructure on which other Practices can be more effectively implemented. For **e**[scm], Institutionalization Practices are similar to those Practices found in the SW-CMM.

Institutionalization is defined in the SW-CMM as, "The building of infrastructure and corporate culture that supports methods, practices and procedures so that they are the ongoing way of doing business, even after those who originally defined them are gone" [Paulk 95, pg. 10]. Thus activities associated with institutionalization in the SW-CMM are attributes that indicate whether a process is effective, repeatable and long-lasting. For **e**[scm], the 23 Institutionalization Practices shown in Table 2 are also expected to be essential to a service provider's ability to build effective and long-term capabilities. This is especially important given that most sourcing relationships are of long duration.

The Institutionalization Practices in the **e**[scm] are organized into four categories: (1) Commitment to perform, (2) Ability to perform, (3) Measurement and analysis, and (4) Verifying implementation. In order to support compatibility with other quality models, the **e**[scm] institutionalization categories are closely aligned with the common features of the SW-CMM. For **e**[scm], each of these categories is defined below:

1. Commitment to perform involves defining and establishing policies and communications from top management establishing their sponsorship. These are Practices that describe the actions a service provider must take to ensure that a process is established and will endure.
2. Ability to perform involves Practices for identifying, developing, and providing resources to carry out competent design and delivery of services. These Practices describe the preconditions that should exist to implement the sourcing process competently.
3. Measurement and analysis Practices involve capturing and analyzing performance data to help management track status and to allow the organization to determine the effectiveness of efforts.
4. Verifying implementation involves Practices for ensuring the quality of service delivery and that compliance with planned programs is occurring.

Examples of each of these kinds of Practices are provided in Section Two of the introduction to Part Two of this document. Note that the Practice identifiers for

Institutionalization Practices are always shown in italics throughout this document to aid in distinguishing these important Practices.

Table 2: Institutionalization Practices in the e^{scm}

Practice Identifier	**Commitment to Perform (6 Practices)**
org_over_1_3	Define and communicate organizational objectives.
org_over_2_2	Establish and implement policies on security, confidentiality and protection of intellectual property.
org_over_3_2	Establish and implement a policy on risk management.
ppl_over_1_4	Establish and implement a policy to encourage and support innovation and entrepreneurship across the organization.
ops_over_1_2	Define and communicate engagement objectives.
km_over_1_4	Establish and implement a policy to share knowledge among stakeholders.

Practice Identifier	**Ability to Perform (11 Practices)**
org_over_4_2	Identify and provide adequate resources for performing service-related and support activities.
org_over_5_3	Define and communicate the roles, responsibilities, and authority of personnel in the organization.
org_over_6_4	Establish and implement programs to achieve organizational objectives.
ppl_over_2_3	Identify the workforce competencies needed to achieve organizational objectives.
ppl_over_3_3	Develop the workforce competencies needed to achieve organizational objectives.
ppl_over_4_2	Assign roles and responsibilities to personnel based on appropriate personnel competencies.
ppl_over_5_3	Establish and implement procedures to plan and deliver training.
ppl_over_6_2	Meet identified personnel competency needs by providing training.
ppl_over_7_2	Establish and maintain a work environment that enables personnel to work effectively.
km_over_2_2	Identify, control, and provide the information required to perform service-related and support activities.
km_over_3_3	Establish and implement a knowledge system to identify, control and disseminate information.

Practice Identifier	**Measurement and Analysis (3 Practices)**
org_over_7_3	Establish and implement procedures to capture and analyze performance measures.
org_over_8_4	Define capability baselines for the organization by analyzing performance data.
org_over_9_4	Benchmark organizational performance against comparative data from external and internal sources.

Practice Identifier	**Verifying Implementation (3 Practices)**
org_over_10_3	Establish and implement procedures to periodically review the organization’s performance.
org_over_11_4	Establish and implement procedures to verify whether organizational programs are being executed as planned.
ops_over_2_2	Establish and implement procedures to measure and verify that process and service commitments are satisfied.

e^{scm} - Methods to Determine a Service Provider's Capability

To identify, analyze, and guide improvement of a service provider's capabilities, the e^{scm} is accompanied by four capability determination methods. These methods address the needs of service providers and their clients for determining the capability of the provider relative to the e^{scm}. The methods use e^{scm} Version 1.1 as the reference model. These methods will determine capability through a systematic analysis of the implementation and institutionalization of the Practices defined in the e^{scm}.

The e^{scm}-based capability determination methods will allow providers to determine their current capabilities and define targets for self-improvement. These methods will also allow clients to compare multiple potential providers with respect to the same capabilities, measured in a consistent manner. Thus, the objectives of e^{scm} determinations are to:

- Identify and derive a Capability Profile, which includes the strengths, weaknesses and status of the improvement efforts for a service provider, relative to the e^{scm}
- Identify a service provider's strengths, weaknesses and associated risks as decision inputs for client when selecting a service provider and
- Support, guide, and encourage a service provider's commitment to continuous self-improvement.

The scope of a Self-appraisal or Evaluation will be determined relative to the service provider's needs and the business goals of the sponsor[34]. The four different capability determination methods that are available from IT^{sqc} are: (1) Evaluation for Certification; (2) Self-appraisal; (3) Mini Evaluation; and, (4) Mini Self-appraisal.

There are four differences between these methods:

1. The purpose and outcome
2. Who does it
3. Who sponsors it
4. The scope or amount of the model used in the appraisal or evaluation

Table 3 contrasts these methods, each of which is described in the following paragraphs.

[34]A sponsor may be either the client or a service provider.

Table 3: Capability Determination Methods

	Evaluation	Self-Appraisal
Full	• For Certification • External team, trained and authorized by Carnegie Mellon • Sponsored by client or service provider	• No certification • Team internal, external, or combination • Sponsored by service provider • To prepare for a certificate evaluation, or • To lead an improvement effort
Mini	• No certification • External team • Sponsored by client or service provider • Reduced scope of model	• No certification • Team internal, external, or combination • Sponsored by the service provider • Reduced scope of model

The **Evaluation for Certification** is a third-party external evaluation of an organization's capability, sponsored by the service provider itself or by its client(s). The evaluation team for this method is trained by Carnegie Mellon University and authorized to perform external appraisals of organizations. The evaluative data will be rigorously reviewed by Carnegie Mellon and, when warranted, will result in certification by Carnegie Mellon of the provider's capability. Carnegie Mellon will issue the certificate with a Capability Level and a Capability Profile. Results of Evaluations for Certification go to the service provider, sponsor, and to **IT**^{sqc}.

The **Self-Appraisal** is the method that provides a starting point for initiating capability improvement in the service provider's organization. The appraisal team for this method consists of members who can be either internal or external to the appraised organization, or a combination. Involving an authorized lead evaluator as team leader is recommended. The focus of this method is to identify areas of improvement based on the **e**^{scm}. Results of this method include a gap analysis between the **e**^{scm} Practices and the provider's implementation of these Practices. This appraisal can also be used to prepare for an evaluation for certification. Results of Self-appraisals go to the service provider and to **IT**^{sqc}.

Mini Evaluation is a method of rapidly and economically measuring a provider's capability to provide IT-enabled sourcing services. This method provides a consistent means of checking the status and progress of various capability improvement efforts in an organization. A Mini Evaluation is conducted by an evaluation team consisting of Carnegie Mellon University-trained and authorized evaluators external to the organization, and is sponsored by the provider itself or other external entities, (e.g., clients). The scope of a Mini Evaluation may be limited to a subset of Practices in the **e**^{scm} (e.g., the Practices for one Capability Level of the model or for one Organizational Element). Results are provided to the service provider, sponsor, and **IT**^{sqc}.

Mini Self-Appraisal is a method of rapidly and economically checking the status of the improvement efforts undertaken, or as a means of determining the gap, for initiating improvement efforts using **e**^{scm} as the reference model. A Mini Self-appraisal is sponsored by the service provider and should be led by a duly authorized lead evaluator. Results go to the service provider and the **IT**^{sqc}. These methods and training to be authorized to use these methods will be available from **IT**^{sqc} for use in the various IT-enabled sourcing services and market sectors. While the detailed description of the capability determination methods is addressed in a separate document, the eSourcing Capability Model (**e**^{scm}) Capability Determination Method Guide, a very high-level view is provided here.

Evaluation for Certification and other forms of determination may involve a single project or engagement, a site, or multiple sites of the same organization addressing a specific service (e.g., information services), and/or a specific sector (e.g., banking and finance or healthcare). The process for determining the scope of an evaluation is described in the eSourcing Capability Model (**e**^{scm}) Capability Determination Method Guide and is addressed in the **e**^{scm} Capability Determination Methods training course. Figure 8 contains an overview of the certification process.

Figure 8: Overview of the Evaluation for Certification Process.

Initiation

- Sponsor contacts $\mathbf{IT}^{sqc}$-authorized external agency for evaluation for certification
- Secure senior management sponsorship
- Establish evaluation for certification scope
- Obtain organizational commitment
- Based on $\mathbf{IT}^{sqc}$ guidelines, $\mathbf{IT}^{sqc}$ -authorized external agency enters into agreement with sponsor

Preparation

- Establish a contact point
- Collect organizational information
- Develop detailed plan for Evaluation
- Initiate Document Review

Document Review

- Complete Document Review List
- Obtain Documents from the organization
- Perform Document Review

On-site Activities

- Conduct Executive Briefing
- Conduct Opening meeting
- Collect evidence
- Consolidate and rate information
- Prepare profile and findings
- Conduct Findings Briefing

Report Results

- Complete and distribute evaluation report
- Report data to $\mathbf{IT}^{sqc}$ repository
- Carnegie Mellon reviews and issues certificate, if appropriate
- Data sanitized and put into $\mathbf{IT}^{sqc}$ repository

The process for evaluation is comprised of five major activities that have been described at a high level in Figure 8. These are: (1) initiation, (2) preparation, (3) document review, (4) on-site activities, and (5) reporting of results.

The various sources of data for an evaluation include organization and capability questionnaires, documents and other artifacts, interviews, and verification observations. An evaluation team uses the data collected from the evaluation to determine the capability rating for each of the 93 Practices in the **e**^{scm}. A Practice-level profile is generated for use by the organization and the sponsor. A Capability Level determination is made by the evaluation team, and is reported to the service provider and the sponsor, along with findings about areas of strength and capabilities that the service provider needs to improve. Results of Evaluations and Self-appraisals are reported to **IT**^{sqc} for inclusion in the repository. For Evaluations for Certification, a certification board at Carnegie Mellon rigorously reviews the data before the **IT**^{sqc} issues a Certificate of Capability.

Summary

Part One provides an overview of the $\mathbf{e}^{scm}$ and a summary of the associated capability determination methods. A detailed description of the capability determination methods will be available in a separate document. In Part Two of this document, we provide a complete set of Practice Descriptions with detailed information about the rationale, major activities, examples of major activities, related Practices, and attributes to measure when implementing the model. The descriptions are intended to provide additional details for clients and service providers who want to fully understand the model. The Activities for each Practice are used as the basis for model-based evaluations. The evaluations will result in documentation of capabilities that the service providers and sponsors can use to understand the level of capability present in a service provider and that Carnegie Mellon University will use to determine certification eligibility of service providers. The appraisals will give service providers the means to consistently and objectively determine their capabilities.

Interpretation of the Practices of the $\mathbf{e}^{scm}$ may vary for different IT-enabled sourcing services. The $\mathbf{e}^{scm}$ will accommodate these varying characteristics by providing examples and benchmarks for the different sourcing contexts within each service. Benchmark information will be accessible through the $\mathbf{IT}^{sqc}$ repository that is being established at Carnegie Mellon University and will have data collected from participating evaluated organizations. In addition to providing status on state-of-the-art practices in IT-enabled sourcing services, the repository will also be used by $\mathbf{IT}^{sqc}$ to make changes, as necessary, to the $\mathbf{e}^{scm}$ model to reflect the dynamic nature of the sourcing industry.

Additional documents to support use of the $\mathbf{e}^{scm}$ detailing the capability determination methods and measurement information are in preparation. Training on the use of the model is available through courses offered by $\mathbf{IT}^{sqc}$. The $\mathbf{e}^{scm}$ framework and initial certification method are available from Carnegie Mellon so that $\mathbf{IT}^{sqc}$-authorized external agencies may use it to determine service provider capability in several IT-enabled sourcing services prior to the end of 2002. More information and details on training and on capability determination methods are available at <URL:http://itsqc.srv.cs.cmu.edu>. For information about becoming a member of the consortium sponsoring this work please contact escm@cs.cmu.edu. References, the Glossary of terms used in the **e**[scm], and the appendices of Practices sorted by Phase and by Capability Level follow Part Two of this document.

Part Two: Detailed Practice Descriptions

Introduction

This section of the document provides detailed information on the Practices in the e^{scm}. The Practice detail is preceded by a discussion of the types of Practices and the structure used for the detailed information. Appendix C shows the relationship between Practices for Version 1.0 and Version 1.1 of e^{scm}.

Types of Practices

In principle, the content and structure of each of the e^{scm} Practices is based on whether, and what type of documentation, is expected to be used in the implementation of that Practice. Most Practices in the model refer to a specific type of documentation and so, broadly speaking, the Practices can be thought of as being of one of four types: policy, procedure, guideline, and other Practices.

Policy Practices

These Practices are worded "Establish and implement a policy on X." For example, *org_over_3_2* is "Establish and implement a policy on risk management." While the Practices may refer to a single policy, in fact the organization may choose to implement this through the creation of multiple policies that cover different aspects of the topic in question.

A policy is defined as "a guiding principle, typically established by senior management, that is adopted by an organization or project to influence and determine decisions." [Paulk 93]

Policies should be brief, high-level descriptions of senior management's expectations in a specific area. Senior management is involved with policies in that they commission their development and maintenance, approve them, communicate them to their organization, and, most importantly, enforce them. Policies should only be put in place when they are expected to be the way the organization generally functions.

Policies are generally implemented, in part, through one or more procedures. Policies should be periodically reviewed and updated or deleted to ensure that all policies remain consistent with current management expectations and business objectives. The organization may have policies other than those specified in this model.

Procedure Practices

These Practices are worded “Establish and implement procedures to X.” For example, org_pre_3_2 is “Establish and implement procedures to create and amend contracts.” The Practices use the plural form “procedures” because it is expected that this will typically be implemented through multiple documents. However, an organization may choose to implement this through the creation of a single procedure, or as procedures incorporated in other documents. This is acceptable as long as the procedure provides sufficient guidance so that the personnel performing this Practice have a clear understanding of the steps involved.

A procedure is defined as “a written description of a course of action to be taken to perform a given task.” [IEEE-STD-610 90] Procedures are expected to be detailed documents that show step-by-step instructions on how to perform a particular activity or set of activities. They typically provide information such as inputs, outputs, procedure diagrams showing steps to be followed, textual description of each of the steps in the diagrams, and an indication of roles and responsibilities. Procedures are often supplemented by job aids that are used as quick reference tools by personnel, e.g., checklists and contact lists.

Guideline Practices

These Practices are worded “Establish guidelines for X.” For example, org_pre_2_2 is “Establish guidelines for pricing services.” The Practices use the plural form “guidelines” because it is expected that this will typically be implemented through a set of rules or principles that will provide guidance to personnel.

A guideline is defined as “a rule or principle that provides guidance to appropriate behavior.” [Wordnet]

Guidelines are expected to be high-level documents that provide rules of thumb, expert advice, or other kinds of guidance that would be helpful in standardizing the way personnel perform the Practice. Some types of guidelines (e.g., estimating guidelines) are normally implemented through a model or database that captures expert knowledge in a way that can be easily reused by others.

Other Practices

A number of Practices in the **e**^{scm} do not explicitly mention the use of a specific type of documentation (e.g., policies, procedures, or guidelines). Although the **e**^{scm} does not provide explicit guidance on documentation to be used for every Practice, it is expected that every Practice will be supported by some type of documentation. For example, ppl_over_12_2 is “Assign teams to interact with the client.” These Practices relate to performance of tasks that are critical to success, but may not lend themselves to being documented as policies, procedures, or guidelines. They may be documented in a variety of different ways (e.g., they may be documented within a plan or as part of another procedure).

Understanding the Practices

Practice Structure

A standard structure is used for all Practices in the model. The following six components are included in each Practice, and are described in more detail below: (1) Practice Identifier; (2) Practice Wording; (3) Rationale; (4) Activities; (5) Supplemental Information; and, (6) Attributes to Measure. Please see Figure 9 for the visual layout of the Practice details.

Practice Identifier

This is an abbreviation that conveys the basic information about how the Practice fits into the **e**[scm] structure. It is documented as Element_Phase_Number_Level (e.g., *ppl_over_4_2*). The following abbreviations are used:

- **Elements**: org (Organization Management), ppl (People), ops (Business Operations), tech (Technology), and km (Knowledge Management).
- **Phase**: over (Overall), pre (Precontract), exe (Contract Execution), post (Postcontract).
- **Number**: this is intended to convey approximate temporal sequence related to other Practices within the same Element and Phase (e.g., *ppl_over_4_2* is expected to be performed before *ppl_over_6_2*). This sequence is approximate only, and many organizations may perform Practices in a different sequence than presented in the model. (Institutionalization Practices always come before other Practices in the numbering sequence.)
- **Level**: this indicates the Capability Level of the Practice.

Practice Wording

This is the actual Practice statement and is always shown as a single sentence that states the requirement of the Practice. For example, *ppl_over_4_2* is "Assign roles and responsibilities to personnel based on appropriate personnel competencies."

Rationale

This is a brief explanation of the purpose for the Practice and the expected benefits (to the service provider and/or client) achieved by performing the Practice. The rationale is followed by one or more short paragraphs that provide additional information about the Practice, such as further explanation of benefits of the Practice, definitions, relationship of the Practice with other Practices, and more in-depth explanation of the intent of the Practice.

Activities

This is a listing of activities that the organization needs to perform in order to successfully satisfy the Practice. The list of activities is the minimum set of activities required to meet the Practice. Organizations may perform a set of additional activities for any of the Practices in the model.

Supplemental Information

This provides additional explanatory information that is intended to help convey the intent of the activities and provide examples of how those activities could be implemented. The information provided here is informative only and is not exhaustive. The related activity number is shown along with the explanatory information for that activity.

Attributes to Measure

This is a recommended list of attributes to be measured in order to effectively manage and control the performance of the Practice. Specific measures should be selected based on their expected value to the organization relative to the cost of collecting and analyzing them. Some measures will apply to multiple Practices and not all Practices will be covered by the selected measures. Measures will be changed, added, and deleted over time as the organization gains experience with its measures and as the measurement objectives change.

There is a general set of measures that can be used for most Practices. Effectiveness, resources used, quality, benefits, usability, and coverage are attributes that apply to most Practices. Deployment measures such as percentages of staff that are familiar with the Practice, have been trained in the Practice, or have used the Practice, are also relevant for most Practices.

Figure 9: Practice Detail

Wording of the Practice

Rationale: A brief explanation of the purpose of the Practice and the expected benefits (to the service provider and/or client) achieved by performing the Practice.

Provides additional information about the Practice, such as further explanation of benefits to the service provider and client with implementation of the Practice, relationship of the Practice to other Practices in the model, and more in-depth explanation of the intent of the Practice.

Activities

1. Provides a list of activities to be performed to fulfill the intent of the Practice. At a minimum a service provider has to perform all the listed activities to implement the Practice.

Supplemental Information

Activity 1. Provides examples and related information for activities. The information provided here is indicative, and not exhaustive. A service provider will have to interpret this information for its specific service(s) and market sector(s). The number to the left, after "Activity" shows the link to the appropriate activity in the section above "Activities."

Attributes to Measure

- Areas that need to be measured in order to manage and control implementation of the Practice.

Practice Template

In order to provide for consistency, and also to emphasize those activities that are relevant to all Practices, a standard template is used to structure the Practice activities. There are four basic templates that are used throughout the model:

- Level 2 template for policy and procedure Practices
- Level 2 template for guidelines and other Practices
- Level 3 and 4 template for policy and procedure Practices
- Level 3 and 4 template for guidelines and other Practices.

Table 4 below provides an outline of these templates. The "[]" indicate where language is inserted that is specific to a Practice. The "…" indicate where one or more activities are added that are specific to a Practice.

Table 4: Practice Templates

LEVEL 2 **Policy and Procedure Template**	**LEVEL 2** **Guideline and Other Practices Template**
1. Establish the procedures for []. a. Provide the support for establishing the procedures.	1. Provide the support for [].
b. Document the procedures. These procedures address: 1) Describing the purpose for []. 2) …	No equivalent
2. Implement the procedures for []. a. Provide the support for implementation of the procedures. b. Communicate the procedures to the appropriate personnel [alternative wording "to the relevant stakeholders"]. c. [Perform the Practice] according to the procedures.	2. [Perform the Practice]. a. … b. Communicate the [] to the appropriate personnel [alternative wording "to the relevant stakeholders"].
3. Maintain the procedures for [] and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).	3. Periodically review the effectiveness and relevance of [], and take action as appropriate (uses activities in ops_over_2_2).

LEVEL 3 and 4
Policy and Procedure Template
1. Establish the procedures for []. a. Plan and provide the support for establishing the procedures.
b. Document the procedures. These procedures address: 1) Describing the purpose for []. 2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*). 3) …
2. Implement the procedures for []. a. Create a plan for implementing the procedures b. Provide the support for implementation of the procedures. c. Communicate the procedures to the appropriate personnel [alternative wording “to the relevant stakeholders”]. d. [Perform the Practice] according to the procedures.
3. Maintain and verify the procedures for []. a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*; input from *org_over_7_3*). b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

LEVEL 3 and 4
Guideline and Other Practices Template
1. Plan and provide the support for [].
No equivalent
2. [Perform the Practice]. a. … b. Communicate the [] to the appropriate personnel [alternative wording “to the relevant stakeholders”].
3. Periodically review the effectiveness and relevance of [], and take action as appropriate (uses activities in *ops_over_2_2*). 4. Verify consistency of implementation of the Practice across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Common Activities

In addition to these standard templates, there are a small number of special cases where a group of activities is used in multiple Practices. An attempt was made to keep these activity wordings as consistent as possible. These include the following:

Defining Attributes

Several Practices include the concept of defining attributes for something and using those attributes as a basis for analysis. The following template was used for those Practices:

a. Define the attributes to [].
b. Define and document the measures for the attributes that need to be [].
c. Define and document the methods used for monitoring the defined attributes.
d. Define ranges of acceptable performance for each of the measures.
e. Gather performance measures for the defined attributes.

Planning

Several Practices include planning activities. The following template was used for those Practices:

a. Estimate the [] effort.
    1) Analyze requirements to identify [] activities.
    2) Ensure identified activities are aligned with engagement objectives (input from *ops_over_1_2*).
    3) Estimate the resources required for [], including the effort and timeframe required for each activity (input from km_exe_1_2).
b. Determine milestones and planned progress reviews (output to tracking Practice).
c. Determine attributes to be monitored during [] (output to tracking Practice).
d. Determine monitoring methods and duration for [] activities (output to tracking Practice).
e. Plan the [] (output to tracking Practice).
    1) Create a schedule of [] tasks.
    2) Determine personnel and training required to [].
    3) Document personnel assignments in the plan (uses activities in *ppl_over_4_2*).
    4) Determine additional resources required to [] (uses activities in *org_over_4_2*, *ppl_over_7_2* and *km_over_2_2*).

f. Review the plan.
   1) Review the plan for correctness, clarity, and adequacy.
   2) Obtain approval of the plan.
   3) Communicate the plan to relevant stakeholders.
   4) Periodically review and revise the plan, as appropriate (uses activities in *ops_over_2_2*).

Tracking

Several Practices include tracking activities against a plan. The following template was used for those Practices:

a. Define and establish channels for communicating the status of the [] activities, including criteria for escalation.
b. Track the [] activities against the plan using the defined monitoring methods (input from planning Practice).
c. Identify and track to closure actions to be taken when actual performance does not meet required outcomes.
d. Communicate the progress of the [] activities to the relevant stakeholders.
e. Periodically review the effectiveness and relevance of the tracking, and take action as appropriate (uses activities in *ops_over_2_2*).

Other

Many Practices made use of one or more of the following activities:

- Determine dispute handling and escalation methods.
- Align [] with engagement objectives (input from *ops_over_1_2*).
- Align [] with organizational objectives (input from *org_over_1_3*).
- Ensure that [] follow the security, confidentiality and protection of intellectual property policies (input from *org_over_2_2*).
- Ensure that [] follow the policies and requirements for security, confidentiality, and protection of intellectual property (input from *org_over_2_2*, ops_over_8_2, ops_over_9_2).

Relationships between Practices

Table 5 provides definitions and examples of the three types of relationships between Practices: input, output, and uses activities in.

Table 5: Types of Relationships between Practices

Relationship: Input/Output	How link is shown in Practice
An input/output relationship exists between two Practices when one Practice (Practice B) provides information or deliverables that are used by another Practice (Practice A). Note: there are three cases where input/output links may not be fully referenced: • Because every Institutionalization Practice has an input/output relationship to every other Practice, those relationships are not usually explicitly stated. This is to avoid the duplication of listing a link to every Practice in the model repeatedly. The exception is that input/output links to Institutionalization Practices are shown when the link is significant enough to warrant emphasis. See the section on Institutionalization of Practices for more information about these Practices. • When an input/output link is described in supplemental information, the corresponding output/input link may not be shown in the corresponding Practice. • When an input/output link exists between Practices at different Capability Levels, the link is shown in the higher-level Practice only.	• Practice A – the activity that uses the information or deliverable will have an input reference "input from Practice B." • Practice B – the activity that generates the information or deliverable will have an output reference "output to Practice A." Example: ops_exe_2_2 (Develop a plan to design and deploy the service) has an input/output relationship with ops_exe_3_2 (Track service design and deployment activities against the plan at designated intervals). The relationship exists because monitoring methods generated in ops_exe_2_2 are input into ops_exe_3_2 where they are used for tracking purposes. The following references are used: • Output reference – ops_exe_2_2, Activity 2g: "Determine monitoring methods and duration of monitoring for design and deployment activities (output to ops_exe_3_2)." • Input reference – ops_exe_3_2, Activity 2c: "Track the service design and deployment activities against the plan using the defined monitoring methods (input from ops_exe_2_2)."

Relationship: Uses Activities In	How link is shown in Practice
A "uses activities in" relationship exists between two Practices when <u>all</u> of the activities in one Practice (Practice B) are used to perform one of the activities in another Practice (Practice A).	• Practice A – the activity that uses the activities from Practice B will have a reference "uses activities in Practice B." • Practice B – link is not shown. Example: ops_over_3_2 (Establish and implement procedures to select subcontractors and vendors based on their ability to meet identified requirements) has a relationship with ops_over_9_2 (Establish and implement procedures to protect the intellectual property of stakeholders, as appropriate). The relationship exists because intellectual property activities are necessary for a successful subcontractor or vendor relationship, but these activities are already described in ops_over_9_2. The following reference is used: • ops_over_3_2, Activity b8: "[These procedures typically address:] Determining rights, responsibilities, and ownership of current and future intellectual property (uses activities in ops_over_9_2)."

Institutionalization of Practices

As described in Part 1, Institutionalization Practices are those Practices that help ensure that an organization has a documented process in place and a defined way of doing business. As such, the Institutionalization Practices support the implementation of all other Practices in the model.

Some Institutionalization Practices have a more direct impact on specific activities performed in a Practice and activities related to these practices are shown in the Practice Detail. For instance, in the preceding templates, reference is made to, *org_over_5_3*, *org_over_7_3*, *org_over_10*_3, and *ops_over_2_2*. Activities related to these Institutionalization Practices have been included in the Practice Detail because performance of these activities is required to successfully implement the Practices.

Other Institutionalization Practices that have a more direct impact on activities related to implementing a Practice have not been included in the Practice Detail. Activities related to these Institutionalization Practices are not shown in the Practice Detail for two reasons: (1) successful implementation of the Institutionalization Practice provides reasonable assurance that the activity will be included in all implemented Practices; and (2) removal of this detail decreases the duplication of activities across Practices. Even though the activities have not been explicitly included in each Practice it is important to perform these activities for each Practice implementation. We provide the list of additional Institutionalization Practices that provide support for establishing and implementing other **e**^{scm} Practices next.

Capability Level 2 Practices

In order to institutionalize a Practice, an organization must provide the support infrastructure for the Practice (Activities 1a and 2a for procedure and policy Practices, and Activity 1 for guideline and other Practices from the Practice template). Institutionalization includes the following support activities:

- Identifying and providing the resources required to support the Practice (*org_over_4_2*).
- Providing a work environment that enables personnel to work effectively (*ppl_over_7_2*).
- Providing the information required to support the Practice (*km_over_2_2*).

- Assigning appropriate personnel to support the Practice (*ppl_over_4_2*).
- Providing training in supporting the Practice, as appropriate (*ppl_over_6_2*).

Capability Level 3 and Level 4 Practices

In order to establish and implement a policy or a procedure at Capability Level 3 and Level 4 an organization must engage in activities similar to those outlined above for Level 2 (Activities 1a and 2b for procedure and policy Practices and Activity 1 for guideline and other Practices from the Practice template):

- Identifying and providing the resources required to support the Practice (*org_over_4_2*).
- Providing a work environment that enables personnel to work effectively (*ppl_over_7_2*).
- Providing the information required to support the Practice (*km_over_3_3*).
- Assigning appropriate personnel to support the Practice (*ppl_over_4_2*).
- Planning and providing training in supporting the Practice, as appropriate (*ppl_over_5_3*).

Future Work on Practices

Additional Practices

Several Practices are being researched to include in the next version of the model. These include:

- Level 2 Practices
  - Dispute handling and escalation methods
  - Communication
- Level 4 Practices
  - Using feedback for organizational improvement
  - Defining new markets

Attributes to Measure

Work has been started on providing more information on Attributes to Measure. Prior to the next release of the model Carnegie Mellon will publish a more detailed discussion of the attributes to Measure for each Practice, or set of Practices, along with example measures for the attributes.

e^{scm} Practices

There are 93 Practices in the model. Table 6 provides a list of all Practices placed within their Organizational Element.

Table 6: Practices by Organizational Element

Organizational Management	People	Business Operations	Technology	Knowledge Management
org_over_1_3	*ppl_over_1_4*	*ops_over_1_2*	tech_over_1_2	*km_over_1_4*
org_over_2_2	*ppl_over_2_3*	*ops_over_2_2*	tech_over_2_2	*km_over_2_2*
org_over_3_2	*ppl_over_3_3*	ops_over_3_2	tech_over_3_2	*km_over_3_3*
org_over_4_2	*ppl_over_4_2*	ops_over_4_2	tech_over_4_2	km_over_4_3
org_over_5_3	*ppl_over_5_3*	ops_over_5_2	tech_over_5_4	km_over_5_3
org_over_6_4	*ppl_over_6_2*	ops_over_6_3	tech_exe_1_2	km_over_6_3
org_over_7_3	*ppl_over_7_2*	ops_over_7_4	tech_exe_2_3	km_over_7_3
org_over_8_4	ppl_over_8_3	ops_over_8_2		km_over_8_3
org_over_9_4	ppl_over_9_3	ops_over_9_2		km_over_9_3
org_over_10_3	ppl_over_10_3	ops_over_10_2		km_pre_1_3
org_over_11_4	ppl_over_11_3	ops_pre_1_2		km_exe_1_2
org_over_12_3	ppl_over_12_2	ops_pre_2_2		km_post_1_4
org_over_13_2	ppl_over_13_4	ops_pre_3_2		
org_over_14_3	ppl_pre_1_3	ops_pre_4_2		
org_over_15_4	ppl_pre_2_2	ops_pre_5_2		
org_over_16_3	ppl_exe_1_2	ops_exe_1_3		
org_pre_1_3	ppl_exe_2_2	ops_exe_2_2		
org_pre_2_2	ppl_post_1_2	ops_exe_3_2		
org_pre_3_2		ops_exe_4_2		
org_exe_1_2		ops_exe_5_2		
org_exe_2_3		ops_exe_6_3		
org_exe_3_2		ops_exe_7_2		
		ops_exe_8_2		
		ops_exe_9_2		
		ops_exe_10_2		
		ops_exe_11_2		
		ops_exe_12_2		
		ops_exe_13_3		
		ops_exe_14_2		
		ops_exe_15_2		
		ops_exe_16_2		
		ops_post_1_2		
		ops_post_2_3		
		ops_post_3_2		
22	18	34	7	12

e^{scm} Practice Details

Define and communicate organizational objectives.

<u>Rationale</u>: *Set directions, create a client focus, and define performance expectations via organizational objectives as prerequisites for successful sourcing relationships.*

Defining measurable organizational objectives that focus on service to the client enables service providers to improve programs and attain expected performance levels. Objectives should also address the needs of all stakeholders.

Objectives are a formal set of business goals that are used to set long-term direction. There are two Practices in the model that cover defining and communicating objectives. The focus of *org_over_1_3* is on defining organizational-level objectives, while the focus of *ops_over_1_2* is on defining engagement-specific objectives. These two Practices are closely related, because organizational-level objectives are closely tied to engagement-specific objectives. At a minimum, each engagement is expected to have business goals formally defined for that engagement. For organizations that have organization-level business goals clearly defined, *org_over_1_3*, these higher-level goals should be closely linked to, and used as a basis for setting, engagement-specific objectives for *ops_over_1_2*.

Activities

1. Plan and provide the support for defining and communicating organizational objectives.
2. Define and communicate the organizational objectives.
   a. Define organizational objectives (output to *org_over_5_3*, *org_over_7_3*, *org_over_10_3*, *ppl_over_2_3*, *km_over_3_3*).
   b. Create a plan for communicating and achieving the objectives.
   c. Ensure that activities performed by the organization are aligned with organizational objectives (output to *org_over_2_2*, *org_over_3_2*, *org_over_5_3*, *ppl_over_5_3*).
   d. Communicate the objectives to the relevant stakeholders.
3. Periodically review and revise the organizational objectives, as appropriate (input from *org_over_10_3*).

Supplemental Information

Activity 1. The information needed for setting organizational objectives includes expected performance, existing organizational capability baselines, performance of improvement programs, internal and external benchmarks, and feedback from the client at different stages of the contract.

Activity 2a. Organizational objectives are usually long term, and should be as measurable as possible, focusing on providing service to the client. The objectives relate to factors that influence client satisfaction or operational improvement, for example, "Increase overall client satisfaction by x%," and "Improve overall operational efficiencies by y%." The objectives should address and balance the needs of all stakeholders.

Activity 2b. Incorporate the organizational objectives at appropriate levels in the organization.
Organizational objectives are established at appropriate levels by defining relevant functional, departmental, team, and individual objectives.

Define timeframes for achieving the objectives.

Attributes to Measure

- Effectiveness of communication about objectives
- Feasibility of the objectives

Establish and implement policies on security, confidentiality and protection of intellectual property.

<u>Rationale</u>: Demonstrate an approach to security and confidentiality that provides confidence to the client and protects the organization from legal liability.

Policies for security, confidentiality, and protection of intellectual property are needed to provide direction to the organization and demonstrate management commitment to these critical activities. These policies provide a framework from which processes and procedures can be implemented that protect both the organization and its clients. Effectiveness of the organization's management of security, confidentiality, and protection of intellectual property may influence a client's selection of an organization. Also these policies provide protection against security risks and exposure to legal liability.

Activities

1. Establish the policies for security, confidentiality and protection of intellectual property.
   a. Provide the support for establishing the policies.
   b. Document the policies. These policies address:
      1) Describing the purpose for policies on security, confidentiality and protection of intellectual property.
      2) Identifying potential threats to the organization's infrastructure and information systems (output to *org_over_3_2*).
      3) Analyzing potential threats to the organization's infrastructure and information systems.
      4) Determining the policies that need to be in place to address potential threats.
      5) Ensuring that disaster recovery procedures address identified threats.
      6) Ensuring that the policies address the issues of security, confidentiality and protection of intellectual property for all organizational resources (output to *org_over_4_2*, *ppl_over_7_2*, *km_over_2_2*).
      7) Aligning policies with engagement-level objectives (input from *ops_over_1_2*).
2. Implement the policies for security, confidentiality and protection of intellectual property.
   a. Communicate the policies to the relevant stakeholders.
   b. Provide the support for implementation of the policies.
   c. Manage security, confidentiality and protection of intellectual property according to the policies.

3. Maintain the policies for security, confidentiality and protection of intellectual property and periodically review the policies and actions taken to implement the policies (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Potential threats can be electronic or physical. Examples include undetected intrusions, loss of privacy, loss of confidentiality, loss of integrity of data or systems, and virus attacks.

Identification of potential threats is done by reviewing prior experiences of the organization or of similar organizations, conducting security audits, and obtaining client feedback.

Activity 1b3. An assessment of organization infrastructure and information systems includes an analysis of the impact on operational capability due to loss of confidentiality, vulnerabilities that could be exploited, existing threats that could exploit the vulnerabilities, likelihood that a threat might occur, availability and appropriateness of options, and resources required to address these threats.

Organizational resources placed under security and confidentiality may include personnel; technology, such as networks, hardware or software applications; client-supplied information; and intellectual property.

Activity 1b6. Ensure that the policy provides directions for implementing security, confidentiality and protection of intellectual property management procedures, including levels of monitoring and remedial action to be taken in case of breach. Security, confidentiality and protection of intellectual property policies typically cover access and use policies, installation policy, configuration policy on information infrastructure, encryption, and information privacy.

Activity 2. Security, confidentiality and protection of intellectual property policies are implemented by physical access controls; secure passwords; anti-virus software; firewalls; and non-disclosure agreements with relevant stakeholders, such as personnel, subcontractors, and vendors.

Activity 3. Adherence reviews are typically implemented through security audits; usage of monitoring tools; and reports on resources accessed and frequency of access. Effectiveness reviews are typically implemented through usage of monitoring tools, security audits, and analysis of changes in client requirements.

Attributes to Measure

- Pervasiveness of policy awareness
- Pervasiveness of policy training
- Pervasiveness of policy understanding
- Pervasiveness of policy adherence
- Effectiveness of the policy

Establish and implement a policy on risk management.

Rationale: Demonstrate an approach to proactive risk management that can be the basis for realistic management of expectations.

A documented policy demonstrates management commitment to identify, assess and manage risk. Development of a risk management policy provides direction for internal stakeholders to proactively manage risk.

Activities

1. Establish a policy on risk management.
   a. Provide the support for establishing the policy.
   b. Document the organization's risk management policy. The policy addresses:
      1) Describing the purpose of a risk management policy.
      2) Identifying potential risks to the organization (input from *org_over_2_2*).
      3) Assessing potential risks for their impact on the organization.
      4) Ensuring that disaster recovery procedures address identified risks.
      5) Determining the policy that needs to be in place to address potential risks.
      6) Ensuring that the risk management policy clearly articulates the organization's tolerance for risk.
      7) Aligning the policy with engagement-level objectives (input from *ops_over_1_2*).
2. Implement the policy for risk management.
   a. Communicate the policy to the relevant stakeholders.
   b. Provide the support for implementation of the policy.
   c. Manage risks according to the policy.
3. Maintain the policy for risk management and periodically review the policy and actions taken to implement the policy (uses activities in *ops_over_2_2*).

[redacted]

Supplemental Information

Activity 1b3. The risks perceived by the organization are based on the organization's experience (including market sector and service experience), resource constraints, and service level expectations. The perceived risks typically include known weaknesses in the organization's procedures; insufficient resources (including personnel, technology, or infrastructure); inadequate skill availability; inadequate security coverage; and obsolescence of technology. Use identified potential threats from the security and confidentiality policy to aid in determining perceived risks.

Attributes to Measure

- Pervasiveness of policy awareness
- Pervasiveness of policy training
- Pervasiveness of policy understanding
- Pervasiveness of policy adherence
- Effectiveness of the policy

Identify and provide adequate resources for performing service-related and support activities.

<u>Rationale</u>: Maintain operational effectiveness and efficiency and meet commitments made to clients by providing adequate resources in a timely manner.

Providing adequate resources to meet commitments enables the organization to satisfy client requirements, build positive client relationships, and provide stable service delivery.

Resource requirements, such as personnel, expertise, technology infrastructure, and funding, are made available for service-related and support functions. Support functions include, but are not limited to, accounting, human resources, information systems, sales and marketing, and quality control. Support activities performed by these functions include verifying the implementation of procedures and programs, operational improvement, research and development, improving the physical environment, and monitoring personnel performance.

Activities

1. Provide the support for identifying and allocating resources.
2. Identify and provide resources.
    a. Determine methods for providing resources.
    b. Define and communicate steps personnel need to follow to request resources.
    c. Identify the types of resources needed by personnel to perform their duties.
    d. Estimate the resources required by personnel to perform their duties (input from *ops_over_1_2*, *km_over_2_2*).
    e. Provide identified resources to personnel.
    f. Ensure that access to resources follows the security, confidentiality, and protection of intellectual property policies (input from *org_over_2_2*).
3. Periodically review whether resources are adequate, taking corrective action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1. Tools used to estimate resources may include spreadsheets, forecasting applications, and capacity plans.

Information needed to identify resource requirements includes improvement programs, historical utilization data, personnel skills, technology inventory, service commitments, and client needs (input from org_pre_3_2, ops_over_8_2, km_exe_1_2).

Activity 2c. Resources also include help manuals, documentation, tools (e.g., spreadsheets, templates, job aids), and procedures.

Activity 3. One way to determine adequacy of resources is to track utilization of resources and requests for additional resources.

Attributes to Measure

- Adequacy of resources
- Resource utilization

Define and communicate the roles, responsibilities, and authority of personnel in the organization.

<u>Rationale</u>: *Enable personnel to effectively perform their work by clearly defining their roles, responsibilities, and authority.*

Alignment of roles, responsibilities, and authority of personnel in the organization with organizational objectives should result in improved performance. Periodic review of roles, responsibilities and authority of personnel in the organization helps to ensure that effective roles are assigned. Also, clearly defining primary and secondary responsibilities helps ensure coverage of important functions and activities in the organization.

This Practice builds upon the roles and responsibilities that are initially defined in *ppl_over_4_2*. The focus of *ppl_over_4_2* is on assigning qualified personnel to identified roles in order to effectively deliver service for a client engagement. The focus of *org_over_5_3* broadens this to align roles and responsibilities not only with engagement requirements but also with long-term organizational objectives (input from *org_over_1_3*).

Activities

1. Plan and provide the support for defining and communicating the roles, responsibilities, and authority of personnel in the organization.
2. Define and communicate the roles, responsibilities, and authority of personnel in the organization.
   a. Identify the various functional areas within the organization and their associated activities.
   b. Define and document roles, responsibilities and authority of personnel in each of the identified functional areas.
   c. Align the roles, responsibilities, and authority of personnel in the organization with organizational objectives (input from *org_over_1_3*).
   d. Communicate the roles, responsibilities and authority to relevant stakeholders.
   e. Track and document changes, if any, in roles, responsibilities, and associated authority, and communicate the changes to the relevant stakeholders.
3. Periodically review the effectiveness of defining and communicating the roles, responsibilities, and authority of personnel in the organization, and take action as appropriate.

Supplemental Information

Activity 2a. Use organizational objectives to help identify important functions and activities (input from *org_over_1_3*).

Activity 2b. Role definitions should include both primary and secondary responsibilities. For example, the Vice President of Finance has primary responsibilities related to financial activities, but may also be involved in negotiation as a secondary responsibility.

Responsibilities that can be assigned to specific roles include revenue responsibility, team functions, contract or project responsibilities, and performance objectives.

Authority that can be assigned to specific roles includes approval of resource acquisition, making commitments to clients or prospective clients, approval of specialized training, and other types of decision-making.

Attributes to Measure

- Pervasiveness of awareness of role descriptions
- Pervasiveness of correct and current role descriptions

Establish and implement programs to achieve organizational objectives.

<u>Rationale</u>: Increase the capability and effectiveness of the organization by establishing programs for achieving organizational objectives across all functions and levels of the organization.

A program is a related set of activities or projects that are managed to achieve a common objective. At any one time an organization is expected to have one or more programs in place to help it achieve defined organizational objectives (input from *org_over_1_3*). For example, an organizational objective to "increase market share by x%" may result in one program to create a new service and another program to improve the skill level of personnel.

Programs are often the means for an organization to improve processes or procedures or to introduce innovative technology to improve organizational performance. This improves the ability of the organization to deliver service that meets the needs of new or existing clients.

Activities

1. Establish the programs to achieve organizational objectives.
   a. Plan and provide the support for establishing the programs.
   b. Plan the programs.
      1) Identify the programs necessary for achieving organizational objectives.
      2) Determine objectives for each program and align with organizational objectives (input from *org_over_1_3*).
      3) Identify the stakeholders that are affected by the programs.
      4) Develop a business case for each program, using input from identified stakeholders.
      5) Prioritize and select programs to pursue based on business case and organizational objectives (input from *org_over_1_3*).
      6) Estimate the programs.
         a) Determine the activities required to achieve program objectives.
         b) Estimate the resources required for each program, including the effort and timeframe required for each activity.
         c) Determine milestones and planned progress reviews.
         d) Determine attributes to be monitored (output to *org_over_11_4*).
         e) Determine monitoring methods and duration of monitoring for program activities (output to *org_over_11_4*).
      7) Create the program plans.
         a) Create a schedule of program activities.
         b) Determine resources needed to implement each program (uses activities in *org_over_4_2*, *ppl_over_4_2*, *ppl_over_7_2*, *km_over_3_3*).
         c) Document personnel assignments in the plans (uses activities in *org_over_4_2*, *ppl_over_4_2, ppl_over_7_2*, *km_over_1_2*).

8) Review the program plans.

a) Review the plans for correctness, clarity, and adequacy.

b) Obtain approval of the plans.

c) Communicate the plans to relevant stakeholders (output to *org_over_11_4*).

d) Periodically review and revise the plans, as appropriate (input from *org_over_11_4*; uses activities in *ops_over_2_2*).

2. Implement the programs.

a. Communicate the programs to the appropriate personnel.

b. Provide the support for implementation of the programs.

c. Implement the programs according to the plan.

3. Verify whether programs are being implemented as planned (uses activities in *org_over_11_4*).

Supplemental Information

Activity 1b1. Programs are typically identified based on an analysis of improvement opportunities (input from km_over_8_3, km_over_4_3, org_over_16_3, ppl_over_13_4, *org_over_9_4*), or based on an identified need to build or enhance capabilities within the organization (input from km_over_9_3, tech_over_5_4, *ppl_over_3_3*). For instance, the organization may receive feedback (input from km_over_8_3) that points out a needed organizational improvement. Another example is that the organization may decide, based on its organizational objectives, to implement innovative technology across several parts of the organization.

Examples of improvement opportunities include modifying organizational procedures, standards and processes based on benchmark analysis (input from *org_over_9_4*).

Activity 1b4. Business cases should be based on an analysis of costs, benefits, and resource constraints.

Activity 1b5. Dependencies between programs should also be considered when establishing priorities. For instance, a training program to build new workforce competency may need to be completed before initiating a program to market a new service based on that competency.

Attributes to Measure

- Program status relative to plan
- Program effectiveness
- Program implementation effectiveness
- Program return on investment

Establish and implement procedures to capture and analyze performance measures.

<u>Rationale</u>: *Control and improve organizational performance in part by using measurement to effectively and objectively monitor performance.*

Procedures for capturing and analyzing performance measures support the ability of the organization to effectively and consistently measure the key attributes that impact performance and to make decisions based on the results of those measures. Using well-defined performance measures as a basis for making management decisions helps to ensure consistency and relevance of decisions. This enables the organization to make performance improvements that increase efficiency and effectiveness of service delivery.

This Practice expands on measurements established in *ops_over_2_2*. While the focus of *ops_over_2_2* is on establishing measures that help the organization to determine whether operational commitments are being satisfied, the focus of *org_over_7_3* is on establishing measures that help the organization effectively manage and improve its performance. Resource consumption data (input from km_exe_1_2) is a primary source of data that is used to determine the efficiency of the organization's performance.

Activities

1. Establish the procedures for capturing and analyzing performance measures.
   a. Plan and provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for capturing and analyzing performance measures.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Defining the attributes to be measured to determine if organizational and engagement objectives are met (input from *org_over_1_3, ops_over_2_2*).
      4) Defining and documenting the performance measures for the attributes.
      5) Defining and documenting the methods used for measuring the defined attributes.
      6) Defining ranges of acceptable performance for each of the measures.
      7) Gathering performance measures for the defined attributes.
      8) Periodically reviewing organizational performance against defined criteria.
         a) Comparing performance measures against defined ranges of acceptable performance.
         b) Determining reliability and accuracy of data used for the measures.
      9) Identifying gaps between actual and expected performance and taking corrective actions, as appropriate (output to *org_over_10_3*).
      10) Communicating the performance measures and actions taken to relevant stakeholders.

2. Implement the procedures for capturing and analyzing performance measures.
    a. Create a plan for implementing the procedures.
    b. Provide the support for implementation of the procedures.
    c. Communicate the procedures to the relevant stakeholders.
    d. Capture and analyze performance measures according to the procedures.
3. Maintain and verify the procedures for capturing and analyzing performance measures.
    a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).
    b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b4. Performance measures relate to both the effectiveness in achieving intended objectives and the efficiency of the procedures or programs. Measures may be either direct measures or computed measures. Computed measures are derived based on two or more direct measures, and are in the form of ratios, indices, etc. Measures of performance include customer satisfaction, service quality, and productivity.

Activity 1b7. Examples of tools used to gather performance measures are software programs and standard templates. Examples of automatically captured measures are time-stamped activity logs and process-generated data.

Attributes to Measure

- Measurement status relative to plan
- Measurement cost
- Pervasiveness of measurement compliance
- Use of measurement analyses

Define capability baselines for the organization by analyzing performance data.

Rationale: Predict performance, make accurate estimates, and improve the quality of services, in part, by using capability baselines.

Well-defined capability baselines enable the organization to effectively compare current performance against past performance and make decisions about how to improve capabilities as well as effectiveness and efficiency of service delivery. A statistically significant capability baseline provides a basis for the organization to evaluate whether performance deviations are within expected ranges or whether they represent exceptions that need to be investigated and resolved. This provides a firm basis for determining how to allocate resources to investigate issues and make organizational improvements.

This Practice expands on measurements established in *org_over_7_3*. While the focus of *org_over_7_3* is on establishing measures that help the organization effectively manage and improve its performance, the focus of *org_over_8_4* is on establishing performance baselines for specific organizational capabilities. This is done through statistical process control techniques that may not necessarily be employed in *org_over_7_3* but that do rely on historical performance data that would be gathered from that Practice.

Activities

1. Plan and provide the support for defining capability baselines.
2. Define capability baselines by analyzing performance data.
   a. Determine the capabilities that should be baselined.
      1) Review organizational and engagement objectives (input from *org_over_1_3*, *ops_over_1_2*).
      2) Review performance measures and standards (input from *org_over_7_3*).
      3) Determine scope and types of baselines that should be developed based on the reviews.
      4) Define the frequency for conducting each type of baseline.
   b. Identify the performance measures that should be used for the capability baselines (input from *org_over_7_3*).
   c. Gather performance data for identified measures (input from *org_over_7_3*).
   d. Analyze performance measures to derive capability baselines (output to *org_over_9_4*).
   e. Periodically review data from performance measures and update the capability baselines, as appropriate.
   f. Benchmark organizational performance (uses activities in *org_over_9_4*).
   g. Communicate the capability baselines to relevant stakeholders.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2*; input from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a3. A separate capability baseline should be developed whenever there are substantial differences in services characteristics. Examples of service characteristics include infrastructure used to design, deploy or deliver the service; personnel competencies; and, client location.

Activity 2d. Organizational capability baselines can include time-to-deliver, time-to-respond, number of defects, and cost.

Attributes to Measure

- Use of baseline data
- Current performance relative to baselines
- Baseline update status relative to plan
- Changes in baselines over time

Benchmark organizational performance against comparative data from external and internal sources.

<u>Rationale</u>: Identify opportunities for improvement by benchmarking organizational performance against performances by comparable organizations, both external and internal to the service provider.

Use of benchmark data allows the organization to objectively evaluate its performance against comparable organizations and determine areas for improvement. Improvement can focus on expanding competitive advantage (i.e., for areas where benchmark results already show that the organization's performance is better than other organizations) or on addressing weaknesses identified. This benchmark data, when evaluated against the organization's performance baselines, provides a firm basis for determining how to allocate resources to make organizational improvements.

This Practice is tightly coupled with *org_over_8_4*. The focus of *org_over_8_4* is on establishing performance baselines for specific organizational capabilities (i.e., defining the current performance level of the organization for each capability). The focus of *org_over_9_4* is on comparing that baseline data with defined benchmarks in order to identify improvements that need to be taken.

Activities

1. Plan and provide the support for benchmarking organizational performance.
2. Benchmark organizational performance against comparative data from external and internal sources.
   a. Identify attributes to benchmark based on organizational objectives (input from *org_over_1_3*).
   b. Identify external and internal performance data to be used for benchmarking (input from *org_over_7_3*).
   c. Gather external and internal performance data (input from *org_over_7_3*).
   d. Create a benchmark for each identified attribute from external and internal performance data.
   e. Compare data from capability baselines and benchmarks (input from *org_over_8_4*) and identify deviations in performance (output to org_over_15_4, ops_over_7_4, tech_over_5_4).
   f. Determine acceptable variations in baselines.
   g. Set goals for performance levels to be achieved.
   h. Initiate improvement programs for areas of operation in which the current performance levels are not meeting organizational goals (uses activities in *org_over_6_4*).
   i. Communicate the results of the benchmarking to relevant stakeholders.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Attributes to Measure

- Amount of benchmarking
- Comprehensiveness of benchmarking
- Performance improvements motivated by benchmarks

Establish and implement procedures to periodically review the organization's performance.

<u>Rationale</u>: Provide visibility about performance in order to enable management to take corrective action when the organization's performance deviates from acceptable performance levels.

A procedure for conducting performance reviews supports the ability of the organization to consistently and effectively review important performance attributes. Periodic reviews are required to provide adequate visibility to management on how actual performance compares to required performance levels. This enables the organization to take corrective action in case of deviations, which aids in meeting client requirements.

Activities

1. Establish the procedures for reviewing the performance of the organization.
   a. Plan and provide the support for establishing the performance review procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for reviewing the performance of the organization.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Determining sources of input, including relevant stakeholders, for the performance review.
      4) Identifying attributes of organizational performance to review (input from *org_over_1_3*).
      5) Obtaining inputs for reviewing the organization's performance from the relevant stakeholders.
      6) Planning the reviews at the appropriate levels.
      7) Reviewing the organization's performance at predefined intervals or on an event-driven basis (input from *org_over_7_3*; output to *org_over_1_3*).
      8) Verifying consistency of the implementation of procedures, policies, standards and processes across the organization, and taking action as appropriate.
      9) Documenting the findings of the review and communicating them to relevant personnel.

2. Implement the procedures for reviewing the performance of the organization.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the performance review procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Review the performance of the organization, according to the procedures.
3. Maintain and verify the procedures for reviewing the performance of the organization.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action if required.

Supplemental Information

Activity 1b3. Inputs required for an organization-wide review include results of key performance measures, results of verification activities, status of programs implemented and their effectiveness, results of client perception and client feedback activities, results of personnel feedback activities, and status of preventive actions taken.

Activity 1b4. The areas to be reviewed include the organization's overall performance, contract-specific performance, program-level performance, and performance in other specific areas, including technology and user perception. The types of reviews include progress reviews and milestone reviews.

Attributes to Measure

- Amount of reviews
- Coverage of reviews
- Effectiveness of reviews
- Results of reviews

Establish and implement procedures to verify whether organizational programs are being executed as planned.

Rationale: Ensure that organizational programs are being executed as planned in order to control and improve their performance in an orderly and systematic fashion.

A procedure to track progress of organizational programs against plans supports the ability of the organization to consistently and effectively determine whether programs are achieving objectives. Periodic reviews of programs are required to provide adequate visibility to management on whether planned benefits are being achieved. This enables the organization to take corrective action in case of deviations, which aids in achieving planned objectives.

This Practice is closely related to org_over_6_4 where the program plans and related business cases are created. In org_over_11_4 performance is tracked against those plans and business cases to help ensure that programs are executed as planned and benefits anticipated in the business case are being achieved.

Activities

1. Establish the procedures for verifying execution of organizational programs according to plan.
   a. Provide the support for establishing the program execution verification procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for verifying execution of organizational programs according to plan.
      2) Defining roles, responsibilities, and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Determining dispute handling and escalation methods.
      4) Tracking program activities against the plan using the defined monitoring methods (input from *org_over_6_4*).
      5) Monitoring achievement of benefits in, and relevance of, the business cases.
      6) Identifying and tracking to closure actions to be taken when activities and benefits do not meet required outcomes.
      7) Communicating actions taken to relevant stakeholders.
      8) Updating business cases and programs based on monitoring and tracking activities, as appropriate (output to *org_over_6_4*).
2. Implement the procedures for verifying execution of organizational programs according to plan.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Verify organizational programs are executed as planned, according to the procedures.

3. Maintain and verify the procedures for verifying execution of organizational programs according to plan.
    a. Maintain and periodically review the procedures and actions taken to implement the programs (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
    b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2b. Verification is conducted by internal personnel or by qualified external auditors. To make sure the review is objective the identified personnel should not be involved in the programs being verified.

Attributes to Measure

- Verification status relative to plan
- Action item status

Establish and implement procedures to manage client relationships.

<u>Rationale</u>: Develop and manage relationships with current and prospective clients in order to fully understand client needs and to foster an effective long-term relationship.

A procedure for managing client relationships supports the ability of the organization to consistently and effectively understand client needs and use them as the basis for delivering service and positioning the organization. An effective relationship with existing clients helps the organization to understand changing client needs and to proactively determine how to address those needs while also addressing organizational objectives. An effective relationship with prospective clients helps the organization to understand potential needs in the market and to position its capabilities to prepare to meet those needs.

Activities

1. Establish the procedures for managing client relationships.
   a. Plan and provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for managing client relationships.
      2) Defining roles, responsibilities, and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Identifying key contact personnel for the organization, current and prospective clients, and the organization's subcontractors and vendors.
      4) Determining the contact personnel's roles, responsibilities and authorities in regard to the sourcing relationship (uses activities in *org_over_5_3*).
      5) Developing a business case that describes how the organization will support the client's organizational and business objectives (input from km_over_7_3, km_over_9_3, km_pre_1_3; output to ops_pre_3_2).
      6) Developing relationships with client contact personnel (output to ppl_pre_1_3).
         a) Identifying target roles for relationship building (input from km_pre_1_3).
         b) Determining relationship goals for each identified target.
         c) Aligning the relationship goals with organizational objectives (input from *org_over_1_3*).
         d) Identifying activities needed for building and maintaining the relationships (input from km_over_8_3, km_over_9_3).
      7) Providing regular channels of communication with the client.
         a) Determining preferred communication methods and media for each contact.
         b) Communicating the business case.

c) Facilitating communications between client and the organization's subcontractors and vendors, as appropriate.

d) Identifying and making available, the information required by present and prospective clients.

e) Obtaining feedback from contacts on the status of the relationship.

8) Monitoring the status of the relationships.

a) Tracking actions taken based on feedback and requests from clients, taking action as appropriate.

b) Monitoring achievement of benefits in the business case, and relevance of the business case.

2. Implement the procedures for managing client relationships.

   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Manage client relationships according to the procedures.

3. Maintain and verify the procedures for managing client relationships.

   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b3. The organization should ensure that it is not dependent on a single contact person for any relationship. This will help to mitigate risk in the event that a contact is unreachable. Similarly, in order to build an effective relationship with the client, the organization should provide backup contact personnel. This will help ensure that the client is always able to reach someone when necessary.

Activity 1b5. The business case should cover the value the organization is providing to the client. It should include measures of success that allow the organization to quantitatively measure value delivered to the client.

Activity 1b6. Relationships have both a formal and an informal component. While both the organization and the client often explicitly recognize the formal component (e.g., an account lead is assigned as a point of contact to a client executive), it is often advantageous to supplement this with informal relationship building (e.g., finding out about client personnel's personal interests and hobbies, or keeping a record of client birthdays and special events).

Activity 1b6a. Target roles in the client organization typically include senior executives (e.g., CEO, CIO, CFO) and other members of client management who have a significant impact on the relationship (e.g., vice president of purchasing).

Activity 1b6b. Relationship goals typically change over the length of the relationship. Initial goals may include learning more about the personal career objectives and decision-making style of the person. Later goals may include becoming a trusted advisor and gaining insight about future business direction.

Attributes to Measure

- Coverage of relationship
- Relationship effectiveness
- Client satisfaction with relationships

Establish and implement disaster recovery procedures.

<u>Rationale</u>: Prepare for possible disasters to minimize their impact on the organization's ability to provide expected services to its clients.

Disaster recovery procedures support the ability of the organization to consistently and effectively prepare for, and react to, disasters that may affect service delivery. Effective disaster recovery enables the organization to continue to provide acceptable service to clients during significant failures of infrastructure or facilities. Preparation covering service delivery, security, confidentiality, protection of intellectual property, and safety of personnel helps provide confidence to the client in the ability of the service provider to react effectively to adverse situations.

Activities

1. Establish the procedures for disaster recovery.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for disaster recovery.
      2) Gathering input from all relevant stakeholders in order to identify potential disasters.
      3) Classifying potential disasters based on an analysis of potential impacts.
      4) Ensuring identified potential disasters incorporate security and confidentiality threats and risks identified through risk management (input from *org_over_2_2, org_over_3_2,* org_exe_3_2, ops_over_8_2).
      5) Determining methods to reduce effects of potential disasters.
      6) Creating a plan for the organization's response to potential disasters, including activities needed to recover resources and coordinate and communicate with all stakeholders in the event of a disaster.
      7) Ensuring that the disaster recovery procedures are in compliance with the organization's policies on security, confidentiality and protection of intellectual property, as well as the requirements for security and confidentiality (input from *org_over_2_2,* ops_over_8_2).
      8) Identifying and documenting any disaster recovery actions taken, and tracking them to closure.
      9) Testing the effectiveness of the recovery plans at regular intervals, taking corrective action as appropriate.

2. Implement the procedures for disaster recovery.
   a. Provide the support for implementation of the disaster recovery procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Respond to, and recover from disasters, according to the procedures.
3. Maintain the procedures for disaster recovery and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Identified disasters are typically classified as external (e.g., natural, infrastructure, political, sabotage, etc.) or internal (e.g., technological, accidents, and intentionally carried out disruptions such as strikes).

Activity 1b3. The identified events may be prioritized based on systematic evaluations including calculating the cost of outage, the impact on personnel morale and confidence, the legal implications, the impact on corporate image, and the impact on credibility with clients and investors.

Activity 1b5. Examples of methods include establishing redundancies in technology infrastructure (input from tech_exe_1_2), provisioning alternative sites to ensure continuity of operations in case of failure of the primary site, providing fire-fighting equipment, regular back-ups, off-site storage, and installing fire alarms.

Activity 1b6. An organization’s response to disasters will typically be documented in the form of a plan for disaster recovery and business continuity. This plan will include identified events that have an adverse impact on the service design, deployment, and delivery activities; the planned response in case the event occurs; the personnel responsible; additional resources to be made available; and a communication and coordination plan.

Activities to be carried out include a clear identification of possible disruption to service, a timeframe for recovery, reviving the critical functions of the organization, and communicating with all the relevant stakeholders. Indicate the time and effort required for the activities defined.

When planning, prioritize the identified disasters and the organizational functions to be targeted for recovery, in case of a disaster. Responses to disaster should maintain an effective work environment (input from *ppl_over_7_2*) and continue to provide resources needed for required service-related and support activities (input from *org_over_4_2*).

Attributes to Measure

- Efficiency of recovery procedures
- Effectiveness of recovery procedures
- Disaster recovery test results
- Actual disaster recovery implementation results

Establish and implement procedures to manage risks across client engagements.

Rationale: Use a planned approach for managing risks to reduce their impact and provide clients with confidence in the organization's ability to maintain desired service levels.

Risk management procedures support the ability of the organization to consistently and effectively identify, assess, and mitigate risks. Effective identification and assessment of risks enables the organization to take mitigating actions to prevent or lower the likelihood of the risk from occurring or to lower the impact of the risk should it occur. This improves the ability of the organization to be able to provide an appropriate level of service despite the occurrence of problems. Effective management of risks improves the confidence of the client in the ability of the service provider to maintain needed services and service levels. Management of risks across multiple engagements allows the organization to balance risks from one part of the organization across a portfolio of engagements.

This Practice expands on risk management activities performed in org_exe_3_2. The focus of org_exe_3_2 is more narrowly defined as risk management of those risks that impact service delivery. The focus of org_over_14_3 is broadened to cover more than just the contract execution phase and includes management of risks across multiple client engagements. There is an added requirement that risk management activities be formally documented in a procedure.

Activities

1. Establish the procedures for managing risk across client engagements.
   a. Plan and provide the support for establishing the risk management procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for managing risk across client engagements.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Identifying risks for a particular market, client, or contract, as appropriate, including the risks identified in the risk policy (input from *org_over_3_2*, org_pre_3_2; output to ops_exe_6_3).
      4) Assessing the identified risks across contracts for their impact to the organization.
      5) Prioritizing and determining how to respond to the identified risks.
      6) Aligning the risk responses with organizational objectives (input from *org_over_1_3*).
      7) Estimating the costs involved in responding to identified risks.
      8) Monitoring the probability of occurrence of risks and the mitigation actions taken, tracking any actions taken to closure.
      9) Communicating identified risks, risk response and risk actions to relevant stakeholders.
2. Implement the procedures for managing risk across client engagements.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the risk management procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Manage risk across client engagements, according to the procedures.

3. Maintain the procedures for managing risk across client engagements.

   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b3. The risks identified that are specific to a contract include technology reliability, inadequacies in skill sets, security, technology obsolescence, a client defaulting on meeting its responsibilities, inaccurate estimation of work effort and related delivery schedules, and insufficient resources, such as personnel.

Activity 1b4. Risks are assessed to determine how likely they are to occur, and how vulnerable each contract is to the identified risks. From this assessment the organization can determine whether it can eliminate or mitigate the risk (e.g., through training or technology upgrades) or accept the risk (e.g., when the risk has little effect on the outcome of the contract). Contingency plans are executed based on previously identified events and cover actions to be taken in case of the occurrence of the identified risk.

One strategy to mitigate risks across the organization is to have a portfolio of contracts with different risk attributes and probabilities.

Activity 1b7. For every identified risk, the organization should calculate the cost of exposure to the risk, the cost of mitigating the risk, and the cost of the mitigated risk. Mitigation of the risk should occur only if the costs of mitigating the risk are less than, or equal to, the cost of exposure to that risk.

Attributes to Measure

- Risks identified
- Return on investment on risk management activities

Proactively identify value creation opportunities and communicate them to the client.

<u>Rationale</u>: Create value for clients in order to improve the organization's relationship with its clients and build new business opportunities.

Regularly and proactively looking for opportunities to help clients meet their business objectives helps the organization to build a long-term relationship with the client. A focus on helping the client to meet their changing business objectives contributes to client satisfaction and helps to make the organization a valued business partner. New opportunities identified may also lead to increased business opportunities for the organization.

The term value creation is used to refer to opportunities that increase the business benefit to the client. In the context of this Practice, value creation refers to more than adding value through the service delivery that the organization is already providing: it extends to identifying opportunities to help the client achieve even greater business value. It includes looking for innovative business arrangements, technologies, or other opportunities that create additional value for the client and help the client to achieve its business objectives.

Activities

1. Provide the support for identifying and communicating value creation opportunities.
2. Identify and communicate value creation opportunities.
    a. Gather information about client's business objectives and communicate to appropriate personnel (uses activities in km_over_7_3).
    b. Establish methods for proactively monitoring value creation opportunities for the client.
        1) Identify types of value creation opportunities to be monitored.
        2) Identify sources of information to be monitored (input from *ppl_over_1_4*, tech_over_5_4, *org_over_9_4*).
        3) Determine frequency of monitoring.
    c. Identify value creation opportunities (input from org_over_16_3, *org_over_9_4*, tech_over_5_4)
    d. Determine potential impact of identified opportunities.
        1) Develop an organizational business case for each opportunity.
        2) Prioritize opportunities based on the business case and organizational objectives (input from *org_over_1_3*).
        3) Select the opportunities to pursue based on the priorities.
        4) Identify clients who will benefit from the opportunities.
        5) Develop a client business case for each selected opportunity (input from km_over_7_3).
    e. Communicate identified opportunities, business cases and impact analysis to clients (output to org_over_12_3).

f. Obtain agreement with relevant stakeholders on potential changes to service or service levels to be pursued based on identified opportunities.

g. Initiate potential changes to services or service levels based on agreed upon opportunities (output to ops_exe_11_2).

Supplemental Information

Activity 2b. Types of value creation opportunities can include technology (uses activities in tech_over_5_4), processes, tools, personnel management approaches, training, and business models.

Activity 2b2. Sources of information can be both internal (e.g., similar service offerings) and external (e.g., industry innovations).

Activity 2d1. The organizational business case must show a compelling need for change in terms that are quantifiable. Each opportunity being analyzed should include a description of the value derived and a preliminary timeline that outlines the sequence of potential programs that can be undertaken to achieve that value.

Activity 2d5. The client business case may include customizing the service being offered to the client.

Attributes to Measure

- Value created
- Value creation opportunities
- Return on investment on value creation activities

Make improvements based on reviews of organizational performance.

<u>Rationale</u>: Use the knowledge gained from performance reviews to identify opportunities for improving organizational performance and increasing stakeholder value.

An organizational focus on continuous improvement helps to increase satisfaction of stakeholders and increase the performance of the organization. Improvements can build upon existing strengths to continue to differentiate the organization; they can also address weaknesses that are causing problems with performance, morale, satisfaction or other aspects of service delivery.

Activities

1. Plan and provide the support for identifying opportunities for improvement based on reviews of organizational performance.
2. Identify opportunities for improvement based on reviews of organizational performance.
   a. Identify sources and classes of information needed to identify opportunities for improvement (output to *km_over_3_3*).
      1) Identify types of information to gather to identify opportunities for improvement.
      2) Determine sources of identified information from previous and current sourcing experiences (input from *org_over_7_3*, *org_over_10_3*, *ops_over_2_2*, ops_over_6_3, ops_exe_6_3, tech_exe_2_3, km_over_4_3, km_over_8_3, km_exe_1_2).
   b. Gather information used to identify opportunities for improvement.
   c. Analyze information gathered about previous and current sourcing experiences.
   d. Identify opportunities for organizational improvement.
   e. Develop a business case for each opportunity.
   f. Prioritize the opportunities to pursue based on the business cases and organizational objectives (input from *org_over_1_3*).
   g. Select the opportunities to pursue based on the priorities.
   h. Create a plan for organizational improvement.
      1) Identify the activities needed to make improvements.
      2) Create a schedule of improvement activities.
      3) Determine resources needed to make improvements (uses activities in *org_over_4_2*, *ppl_over_4_2*, *ppl_over_7_2*, *km_over_2_2*).

4) Review the plan for correctness, clarity, and adequacy.

5) Obtain approval of the plan.

i. Communicate the plan to relevant stakeholders.

j. Monitor the achievement of benefits in the business case, and relevance of the business case.

k. Periodically review the status of improvement actions and the resulting benefits.

3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).

4. Verify consistency of implementation of the Practice across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a2. Information sources include stakeholder feedback, analysis and review, and monitoring and measuring activities.

Activity 2d. Opportunities can include revising organizational standards, policies and procedures.

Activity 2k. The organization may decide to reprioritize (including eliminating a set of improvement activities) if the benefits expected from the business case are not being achieved.

Attributes to Measure

- Improvement status relative to plan
- Benefits of improvement programs initiated on the basis of review

Establish guidelines for negotiations with current or prospective clients.

Rationale: Establish negotiation guidelines to aid internal coordination and help ensure that negotiation results in an agreement support the business objectives of both the organization and the client.

Formal negotiation guidelines support the ability of the organization to consistently and effectively conduct negotiations with clients. Having these guidelines allows the organization to have a structured approach to negotiation, which can improve the client's confidence in the organization. Guidelines also help to protect the organization from legal or performance issues by ensuring that necessary aspects of negotiations are covered.

This Practice is related to ops_pre_4_2, which covers one aspect of negotiations. While the focus of ops_pre_4_2 is on formal identification of topics that need to be discussed during negotiations, org_pre_1_3 is broader and covers establishing formal guidance on all aspects of client negotiation. Identification of topics to be discussed during negations is one aspect that is covered by this guidance.

Activities

1. Plan and provide the support for establishing guidelines for negotiations with current or prospective clients.
2. Establish guidelines for negotiations with existing or potential clients. The guidelines address:
    a. Describing the purpose for establishing guidelines for negotiations with existing or potential clients.
    b. Defining roles and responsibilities and authorization of the personnel or teams responsible for negotiating with current or prospective clients (uses activities in *org_over_5_3*).
    c. Determining a schedule for negotiations.
    d. Identifying an initial set of negotiation topics based on prior negotiations, existing organizational guidelines, policies and procedures, organizational objectives, marketing information about services being offered (e.g., market sector and service), and information known about the client (input from *org_over_1_3*, org_over_2_2, org_over_3_2, ops_pre_1_2, ops_pre_4_2, km_over_7_3, km_pre_1_3).
    e. Determining which topics to cover in a particular negotiation (output to ops_pre_4_2).
    f. Updating topics during a negotiation.
    g. Reviewing status of topics during negotiation.
    h. Aligning the negotiation guidelines with organizational objectives (input from *org_over_1_3*).
    i. Communicating the guidelines to relevant personnel (output to ppl_pre_1_3 and ppl_pre_2_2).

3. Maintaining and periodically reviewing the guidelines for negotiations with current or prospective clients and the use of the guidelines (uses activities in *ops_over_2_2*; input from *org_over_7_3*).
4. Verifying consistency of implementation of the guidelines across negotiations, and taking action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2e. Negotiation topics can vary based on previous relationship with the client, geographical or cultural differences, legal situations, and market conditions.

Attributes to Measure

- Pervasiveness of guideline awareness among expected users
- Pervasiveness of guideline training among expected users
- Pervasiveness of guideline understanding among expected users
- Effectiveness of guidelines

Establish guidelines for pricing services.

Rationale: Establish pricing guidelines that aid internal coordination and help ensure that pricing is aligned with the business objectives of both the organization and the client.

Formal guidelines for pricing support the ability of the organization to consistently and effectively determine pricing for services offered. Pricing of services, based on organizational and engagement objectives, should result in effective and rapid response to client's requests for a proposal. Pricing guidelines also enable an organization to identify and address trade-offs between cost and service levels and work with the client to understand these trade-offs. This helps to ensure that expectations of the client and the organization are understood.

Activities

1. Provide the support for establishing pricing guidelines.
2. Establish pricing guidelines. These guidelines address:
   a. Describing the purpose for establishing pricing guidelines.
   b. Defining and documenting the pricing guidelines based on business objectives and market trends (input from *ops_over_1_2*).
      1) Defining pricing models for different types of services.
      2) Defining roles and responsibilities and authorization of the personnel or teams responsible for estimating and approving the charges for services.
      3) Defining criteria for reviewing and updating charges for contracted services.
   c. Defining and documenting how to use the pricing guidelines (output to org_pre_3_2).
      1) Defining criteria for the applicability of the pricing models.
      2) Providing guidance on estimating charges for each stage of delivery (e.g., design, deployment, and delivery).
      3) Providing guidance on estimating the charges for transition and termination of the services.
   d. Communicating the pricing guidelines to appropriate personnel (output to ppl_over_12_2, ppl_pre_2_2, ops_pre_4_2).
3. Maintaining the pricing guidelines and periodically reviewing the guidelines and the use of the guidelines (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2b. Business objectives related to pricing include competitive positioning, cost and quality expectations, technology used, and desired profit margins.

Activity 2b1. Typical pricing models include fixed price, cost-plus, management fee, hourly fee, profit sharing, value-based, and performance-based pricing. Services may be priced for a task, a project or a complete business.

Activity 2b3. Review of charges could occur due to changes in the nature of the service or an increase or decrease in the quantity of the service and service levels.

Activity 2c1. Criteria include duration of the service, one-time vs. repetitive delivery, skills of the person required for delivering the service, criticality of the service outsourced, and similar experience with the same or other clients.

Activity 2c2. Guidance should cover selection of appropriate pricing models, methods for estimating resource requirements, and methods for estimating changes to pricing if the client requests service changes. Guidance should also ensure that service level commitments are taken into account when estimating charges.

Activity 2c3. Transition pricing can include charges for installation, integration, testing or piloting, and training. Charges related to termination can include costs for transfer of assets and penalties.

Activity 3. Review of pricing guidelines can occur in response to changes in the existing business environment, changes in the consumer price index, new taxation rules, inflation, changes in business objectives, and review of resources consumed in prior contracts.

Attributes to Measure

- Pervasiveness of guideline awareness among expected users
- Pervasiveness of guideline training among expected users
- Pervasiveness of guideline understanding among expected users
- Effectiveness of guidelines

Establish and implement procedures to create and amend contracts.

Rationale: Formulate contracts that clearly address the services required, service levels, terms, conditions, and responsibilities of the client and the organization, and have flexibility to be amended if business needs change.

Procedures to formulate and amend contracts support the ability of the organization to consistently and effectively structure legal agreements with clients and amend those agreements when business conditions change. These procedures help ensure that the client and the organization are able to keep pace with changes in regulatory or economic conditions without adversely affecting their relationships. Given the long-term nature of most sourcing engagements, implementation of procedures for contract amendments and flexibility in the relationship between the client and the organization are critical to success. Well written contracts are also critical for both the organization and client to have a clear, common understanding of what services will be delivered and at what level of quality.

Activities

1. Establish the procedures for creating and amending contracts.
    a. Provide the support for establishing the contract creation and amendment procedures.
    b. Document the contract creation and amendment procedures. These procedures address:
        1) Describing the purpose for creating and amending contracts.
        2) Generating the contract.
            a) Identifying the required inputs for the contract (input from ops_pre_1_2, ops_pre_4_2 and ops_pre_5_2).
            b) Identifying statutory and regulatory requirements (input from ops_over_10_2).
            c) Identifying licensing and intellectual property requirements (inputs from ops_over_9_2, tech_over_4_2).
            d) Incorporating pricing for service into the contract based on the pricing guidelines (input from org_pre_2_2).
            e) Identifying and selecting subcontractors and vendors that will be needed in order to deliver the service being contracted (uses activities in ops_over_3_2), as relevant.
            f) Generating the contract based on the agreement with the client on the services to be provided.
        3) Amending the contract.
            a) Identifying conditions that require contract amendments (input from ops_over_10_2 and ops_exe_11_2).
            b) Incorporating pricing for service based on changed conditions (input from org_pre_2_2).
            c) Generating the amendment based on the changed conditions.

4) Reviewing and approving the contract and amendments.

   a) Ensuring the contract commitments are aligned with engagement objectives and policies and are able to be met by the organization (input from *org_over_2_2, org_over_3_2, ops_over_1_2*, ops_pre_2_2).
   b) Identifying and assessing risks that impact the ability of the organization to make the proposed contractual commitments (input from *org_over_3_2*).
   c) Identifying and tracking changes to contract provisions.
   d) Analyzing the impact of any proposed changes and communicating them to relevant stakeholders before amending the contract.
   e) Making the approved changes.
   f) Obtaining and documenting acceptance to contract terms, or changes to those terms, by the organization, client, subcontractors, and vendors, as appropriate.

2. Implement the procedures for creating and amending contracts.
   a. Provide the support for implementation of the contract creation and amendment procedures.
   b. Communicate the procedures to the appropriate people.
   c. Create and amend contracts, according to the procedures (output to org_exe_1_2, org_exe_3_2, ppl_exe_2_2, ops_over_3_2, ops_over_8_2, ops_exe_4_2, ops_exe_8_2, ops_post_1_2, tech_over_1_2).
3. Maintain the procedures for creating and amending contracts and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. An agreement with a client may be documented in the form of a standard contract that includes the following:

- A clear description of the scope of services, performance standards such as service level agreements and milestones, and performance measures.
- Pricing schedules including personnel, infrastructure, tools, technology, software, and subcontracting.
- Key pricing terms including cost of living adjustments, and currency fluctuation.
- Contract amendment mechanisms for changes including volume changes, scope changes, institutional changes like new regulations, and structural changes such as acquisitions.
- Management and control of the contract including operational decision making, setting of long-term direction, and work allocation.
- Transition provisions, including timeframes and performance during transition period.
- Billing and payment terms, termination provisions, and other terms and conditions.

Activity 1b2d. Prices for services may differ from the guidelines based on negotiations with the client.

Activity 1b2e. Sometimes, but not always, use of subcontractors and vendors will be stated in the contract, e.g. for alliances. Also, depending on the nature of the agreement, the organization may be taking over client contracts with subcontractors and vendors.

Activity 1b3a. Changed conditions include changes to applicable statutes and regulations, requests for additional or more limited services, or modifications to existing services.

Modifications to services may require a new round of analysis and negotiation with the client, possibly leading to an amendment of the contract.

Activity 2a. Training provided to personnel involved in negotiations includes legal, operational, decision-making, conflict resolution, and team coordination.

Attributes to Measure

- Pervasiveness of procedure awareness among expected users
- Pervasiveness of procedure training among expected users
- Pervasiveness of procedure understanding among expected users
- Pervasiveness of procedure adherence
- Effectiveness of the procedure

Establish and implement procedures to communicate the client's requirements from the client interaction team to the service design and deployment team.

<u>Rationale</u>: Communicate the client's requirements to the service design and deployment team clearly and concisely to enable the designed service to meet the client's stated and perceived needs.

Procedures for communicating client requirements support the ability of the organization to help ensure that the service design and deployment team has an accurate understanding of the client's requirements before service design is begun. Effectiveness of service design and deployment are critical to the ability of the organization to meet client requirements during service delivery. Personnel responsible for design and deployment need to have a clear understanding of client requirements in order to build and deploy service that meets those requirements.

Activities

1. Establish the procedures for communicating the client's requirements.
   a. Provide the support for establishing the requirements communication procedures.
   b. Document the requirements communication procedures. These procedures address:
      1) Describing the purpose for communicating the client's requirements.
      2) Defining methods and media of communication.
      3) Determining sources and content of information needed to be communicated about requirements (input from org_pre_3_2, ops_pre_1_2).
      4) Ensuring that communications adhere to the organization's policies on confidentiality and security (input from *org_over_2_2*), as well as client requirements for confidentiality and security (input from ops_over_8_2)
      5) Defining methods for seeking and obtaining clarifications.
      6) Maintaining documentation on the communication from the client interaction team and acceptance by the service design and deployment team.
2. Implement the procedures for communicating the client's requirements.
   a. Provide the support for implementation of the requirements communication procedures.
   b. Communicate the procedures to the appropriate personnel.
   c. Communicate the client's requirements and commitments from the client interaction team to the service design and deployment team, according to the procedures, (input from org_pre_3_2, ops_pre_1_2; output to ops_exe_2_2 and ops_exe_4_2).

3. Maintain the procedures for communicating the client's requirements and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Communication methods include usage of standard templates, forms, and structured meetings. Structured meetings typically have an agenda, mechanisms for handling conflicts and reaching conclusions, and records of what transpired. Factors considered in choosing specific methods include location, personnel involved, type of information exchanged, extent of details being communicated, and understandability of terms.

Activity 1b6. The client interaction team should be sure that the service design and deployment team clearly understands the client's requirements and the commitments made to the client. This understanding can be documented in minutes of meetings, sign-offs on interactions, and responses to clarifications.

Activity 2a. Training may include methods of effective communication to ensure that the captured client requirements are transferred clearly and precisely.

Attributes to Measure

- Pervasiveness of procedure awareness among expected users
- Pervasiveness of procedure training among expected users
- Pervasiveness of procedure understanding among expected users
- Pervasiveness of procedure adherence
- Effectiveness of the procedure

Identify cultural attributes that impact the service, and implement actions to achieve a cultural fit.

<u>Rationale</u>: Achieve an appropriate integration of cultures between the organization and client in order to support the close coordination necessary to meet client requirements.

Cultural differences that impact success of service delivery can include differences in language, country, region, decision-making style, and other differences in backgrounds. While it is not always necessary, or appropriate, for the organization to change its culture to that of the client, it is important to achieve a fit between those cultures to allow for effective service delivery. In some cases, cultural attributes may be specifically required for the contract (e.g., language and accent for call center engagements). In other cases, the organization and client may need to accept differences and identify ways to work together effectively (e.g., if the organization has a hierarchical decision-making style and the client has a consensus decision-making style).

Cultural differences can have a significant impact on service delivery, particularly for engagements that cross geographic boundaries. Being aware of the attributes that impact service delivery, and taking appropriate action to achieve a cultural fit, are critical for success of these engagements. Effectively addressing cultural differences improves client satisfaction and enables personnel to work together effectively.

Activities

1. Plan and provide the support for initiating actions to achieve a cultural fit.
2. Initiate actions to achieve a cultural fit.
   a. Capture information on cultural attributes that are important to ensure success of the organization and success of the engagement (input from ops_pre_1_2, org_pre_3_2).
   b. Create a plan and identify actions required to achieve a cultural fit.
   c. Align actions taken to achieve a cultural fit with engagement and organizational objectives (input from *org_over_1_3*, *ops_over_1_2*).
   d. Obtain feedback on the plan from all relevant stakeholders, updating the plan as appropriate.
   e. Communicate the plan to relevant stakeholders.
   f. Implement the plan to achieve a cultural fit.
   g. Obtain the client's feedback on the effectiveness of the implementation of the plan (uses activities in km_over_8_3).
   h. Identify additional actions to be taken based on the analysis of the feedback, and track to closure any actions initiated.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a. This includes attributes specific to a market sector or geographic area where the organization conducts, or intends to conduct business. Examples of attributes include language (e.g., accent and vocabulary), symbolism (e.g., colors and graphics), and social and behavioral aspects (e.g., actions or words to be avoided).

Activity 2b. Actions can include training (uses activities in *ppl_over_5_3*) and guidelines on appearance (e.g., dress and grooming). Organizational personnel affected by the actions taken to achieve a cultural fit are all personnel who interact with clients, prospective clients, and end-users and any other personnel who design, deploy, deliver, and support the services.

Attributes to Measure

- Pervasiveness of procedure awareness among expected users
- Pervasiveness of procedure training among expected users
- Pervasiveness of procedure understanding among expected users
- Pervasiveness of procedure adherence
- Effectiveness of the procedure

Identify, assess, and manage risks specific to executing the contract.

<u>Rationale</u>: *Manage risks to reduce their impact and provide clients with confidence in the organization's ability to maintain desired service levels.*

Effective identification and assessment of risks enables the organization to take mitigating actions to prevent or lower the likelihood of the risk from occurring or to lower the impact of the risk should it occur. This improves the ability of the organization to be able to provide an appropriate level of service despite the occurrence of problems. Effective management of risks improves the confidence of the client in the ability of the service provide to maintain needed services and service levels.

Activities

1. Provide the support for identifying, assessing, and managing contract-specific risks.
2. Identify, assess and manage contract-specific risks.
   a. Identify risks for each contract (input from org_pre_3_2, ops_over_10_2) based on the risks identified in the risk policy (input from *org_over_3_2*).
   b. Assess the identified risks for their impact to the organization.
   c. Prioritize and determine how to respond to the identified risks.
   d. Incorporate responses in disaster recovery plans, as appropriate (output to org_over_13_2, tech_over_2_2).
   e. Align the risk responses with engagement objectives (input from *ops_over_1_2*).
   f. Monitor the probability of occurrence of risks and the mitigation actions taken, tracking any actions taken to closure.
   g. Communicate identified risks, risk response, and risk actions to relevant stakeholders.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. The risks identified that are specific to execution of a contract include reliability and suitability of technology, adequacy of skill pool and security, failure of a client in meeting its responsibilities, accuracy in estimation of delivery schedules, and sufficiency of resources, such as personnel.

Activity 2b. Risks are assessed to determine how likely they are to occur, and how vulnerable execution of the contract is to the identified risks. Risks should be assessed on both qualitative and quantitative criteria. Qualitative criteria used typically include severity of risks, likelihood of occurrence, and impact of risk. Quantitative criteria may include expected monetary value, statistical sums, and quantified risk tolerances.

Activity 2c. From the risk assessment the organization can prioritize the risks and determine whether to eliminate or mitigate the risk (e.g., through training, upgrading technology) or accept the risk (e.g., when the risk has little effect on the outcome of the contract).

- Eliminating a risk is removing the probability of encountering an adverse event by predicting the event and implementing preventative actions.
- Mitigating a risk includes reducing the intensity of impact of future events that may jeopardize the success of a project or the achievement of a goal, by incorporating alternative approaches and buffers in schedules, or providing stand-by resources.
- Accepting a risk is acknowledging that an identified risk is inevitable, or low cost, and incorporating its occurrence into the planning process for the contract. An example of accepting a risk is extending the credit period for a prospective client during negotiations because acquiring that client is key to the organization's business objectives.

Contingency plans are initiated based on previously identified events and cover actions to be taken in case of the occurrence of the identified risk.

Attributes to Measure

- Effectiveness of risk identification activity
- Recency of risk identification
- Risks identified

Establish and implement a policy to encourage and support innovation and entrepreneurship across the organization.

Rationale: Demonstrate an approach to innovation and entrepreneurship that leads to breakthrough improvements and delivers improved value to clients.

A documented policy demonstrates management commitment to innovation and entrepreneurship. Encouraging personnel to adopt innovative approaches for achieving organizational objectives leads to breakthrough improvements in the organization's performance. The organization can use process and service innovations to deliver improved value to clients, which in turn leads to new business.

Activities

1. Establish a policy for encouraging and supporting innovation and entrepreneurship.
   a. Plan and provide the support for establishing the policy.
   b. Document the policy. The policy addresses:
      1) Describing the purpose for encouraging and supporting innovation and entrepreneurship.
      2) Defining roles, responsibility and authorities of the personnel implementing the policy (uses activities in *org_over_5_3*).
      3) Identifying actions that encourage and support innovation and entrepreneurship.
         a) Involving personnel in decision-making.
         b) Creating rewards and recognition that encourage innovation and entrepreneurship.
         c) Identifying opportunities for personnel to learn about innovation in the organization and industry.
         d) Incorporating innovation and entrepreneurship goals in personnel's career plans.
         e) Encouraging identification of value creation opportunities.
      4) Aligning actions with organizational objectives (input from *org_over_1_3*).
      5) Communicating actions the organization is taking to encourage innovation and entrepreneurship.

2. Implement the policy for encouraging and supporting innovation and entrepreneurship.
   a. Create a plan for implementing the policy.
   b. Provide the support for implementation of the policy.
   c. Communicate the policy to the appropriate personnel.
   d. Encourage and support innovation and entrepreneurship according to the policy.
3. Maintain and verify the policy for encouraging and supporting innovation and entrepreneurship.
   a. Maintain and periodically review the policy and actions taken to implement the policy (uses activities in *ops_over_2_2*; input from *org_over_7_3*).
   b. Verify consistency of implementation of the policy across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b3. Examples of approaches to encourage innovation include providing personnel with flexibility to choose solutions that achieve assigned objectives (uses activities in ppl_over_9_3, ppl_over_11_3), implementing new management techniques, establishing improvement initiatives, and implementing new tools that foster creative thinking and communication.

Activity 1b3b. This may include publishing information on innovative approaches that were implemented in the organization and giving formal recognition to personnel responsible for those innovations.

Attributes to Measure

- Pervasiveness of policy awareness
- Pervasiveness of policy training
- Pervasiveness of policy understanding
- Pervasiveness of policy application
- Effectiveness of the policy

Identify the workforce competencies needed to achieve organizational objectives.

<u>Rationale</u>: Understand organizational needs, in part, by identifying needed workforce competencies in current and prospective business areas.

The organization needs to identify and build the competencies necessary to meet both short-term and long-term objectives. Identifying needed competencies enables the organization to take the steps required for their development

This Practice is related to *ppl_over_4_2*, which covers identification of personnel competencies and helping ensure that personnel assignments meet the competency requirements of specific roles. The focus of *ppl_over_2_3* is expanded from that of personnel competency to one of workforce competency and helping ensure that the organization has the right set of workforce competencies to meet its objectives. Personnel competency refers to the combination of skills, knowledge, and experience that specific personnel in the organization possess. Workforce competency refers to sets of personnel competencies that the organization has or needs in order to meet organizational objectives.

Activities

1. Plan and provide the support for identifying the workforce competencies needed to achieve organizational objectives.
2. Identify the workforce competencies needed to achieve organizational objectives.
   a. Identify future competency needs based on long-term organizational objectives (input from *org_over_1_3*; output to *ppl_over_5_3*).
   b. Obtain input on future competency needs from all relevant stakeholders.
   c. Identify existing competencies.
   d. Identify gaps between existing competencies and future competency needs.
   e. Document and maintain the results of the competency analysis.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).

Supplemental Information

Activity 2c. Existing competencies can be determined from the personnel competency inventory (input from km_over_6_3).

Activity 2e. Documentation produced from the competency analysis typically includes a list of current competencies, a list of required competencies, and timeframes for obtaining the required competencies.

The competency analysis should be updated based on changes in organizational needs. Changes in required competencies can occur due to changes in services, technology, the organization's market strategy, client expectations and competition.

Attributes to Measure

- Currency of competency analysis
- Comprehensiveness of competency analysis
- Competency gaps identified

Develop the workforce competencies needed to achieve organizational objectives.

Rationale: Enable the organization to meet organizational objectives by building the workforce competencies needed to achieve those objectives.

The development of workforce competencies enables the organization to fill competency gaps to meet any short-term needs that are required to meet client requirements. In addition, workforce competency development is undertaken in order to prepare capabilities that will be needed in the future to position the organization to meet long-term business objectives.

This Practice is tightly coupled with *ppl_over_2_3*. The focus of *ppl_over_2_3* is on identifying workforce competency needs, while the focus of *ppl_over_3_3* is on addressing gaps between current workforce competencies and the identified needs.

Activities

1. Plan and provide the support for developing workforce competencies.
2. Develop workforce competencies.
   a. Identify gaps in competencies needed to achieve organizational objectives (uses activities in *ppl_over_2_3*).
   b. Determine actions needed to address competency gaps.
   c. Create a plan to address competency gaps.
   d. Review the plan with all relevant stakeholders.
   e. Communicate the plan to relevant stakeholders.
   f. Implement the plan (output to *ppl_over_5_3*).
3. Periodically review the plan and the actions taken to implement the plan (uses activities in *ops_over_2_2; input* from *org_over_7_3*), updating as appropriate.

Supplemental Information

Activity 1. Personnel who are responsible for the development of competencies include human resource professionals, trainers, coaches, mentors, and quality professionals.

Activity 2b. Actions taken to address gaps include obtaining needed competencies through transferring, hiring or sourcing. Competencies can be developed through career development and training. Examples of development include coaching and mentoring, on-the-job training, and participation in seminars and conferences. Career development should be a joint effort made by the organization and its personnel through career planning (input from ppl_over_8_3).

Activity 2f. Update the personnel competency inventory, as appropriate (output to km_over_6_3).

Activity 3. The effectiveness of competency development activities can be determined through performance appraisals, the achievement of milestones, and evaluations of the effectiveness of training.

Attributes to Measure

- Competency gaps closed
- Timely competency gap closure
- Cost of projected gap closure competency development
- Effectiveness of competency development

Assign roles and responsibilities to personnel based on appropriate personnel competencies.

<u>Rationale</u>: Enable the organization to deliver services effectively and efficiently by assigning qualified personnel.

Allocating personnel based on mapping skills to roles improves the organization's ability to meet and exceed client expectations. Qualified people may be acquired by hiring them or by building the skills of the current staff to meet identified skill gaps (see ppl_over_6_2).

Activities

1. Provide the support for assigning roles and responsibilities to personnel.
2. Assign roles and responsibilities to personnel based on appropriate competencies.
   a. Define and document the roles, responsibilities and authority that are needed to meet client and organizational requirements (input from *ops_over_1_2*).
   b. Identify the personnel competencies that are required to perform the defined roles.
   c. Assign personnel to the defined roles based on their competencies.
   d. Acquire personnel with requisite competencies from external sources, as appropriate.
   e. Identify gaps in personnel competencies (output to *ppl_over_6_2*).
   f. Communicate the assignments to the appropriate personnel.
   g. Maintain records of personnel and their competencies.
3. Periodically review the effectiveness and relevance of assigning roles and responsibilities, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2b. A role is analyzed for required competencies by identifying the specific tasks to be performed, the proposed reporting structure, and the delegation of authority. Specific tasks are identified based on client requirements and feedback, and previous experiences.

Activity 2c. This can include personnel transferred within the organization.

Personnel competencies of assigned personnel are defined through structured evaluations, performance reviews, on-the-job evaluations, work experience, and prior training or education.

Activity 2d. Acquisition of personnel includes obtaining personnel through hiring or sourcing.

Attributes to Measure

- Effectiveness of personnel assignment

Establish and implement procedures to plan and deliver training.

Rationale: Enable the organization to consistently meet its personnel competency needs by planning and managing training.

An established procedure for training supports consistently and effectively building the competencies and skills of the staff, which is a crucial component of developing workforce competencies (*ppl_over_3_3*).

This Practice expands on the provision of training covered in *ppl_over_6_2*. The focus of *ppl_over_6_2* is on meeting training needs that were identified in *ppl_over_4_2*. This training is focused on the training that personnel need in order to be successful in the roles to which they are assigned, or may be assigned in the future. The focus of *ppl_over_5_3* is expanded to cover long-term career development needs as well as the need to address workforce competency gaps that can be met through training (input from *ppl_over_2_3*). There is an added requirement that activities to plan and deliver training be formally documented in a procedure.

Activities

1. Establish the procedures for planning and delivering training.
   a. Plan and provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for planning and delivering training.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Identifying training objectives and desired outcomes based on competency needs and organizational objectives (input from *org_over_1_3*, *ppl_over_2_3*)
      4) Developing plans for career development, project or client-specific, or organizational training (input from *ppl_over_3_3*).
      5) Designing and developing training programs based on the plans.
         a) Identifying materials and tools required for training.
         b) Identifying facilities required for training.
         c) Identifying personnel required for training.
         d) Designing and developing, or acquiring, materials, tools, and facilities required for training.
      6) Delivering training programs.
      7) Documenting and maintaining a record of training.
         a) Developing and maintaining an inventory of trainers, training programs, and associated training materials.
         b) Documenting delivered training.
         c) Maintaining records of personnel competencies.

8) Analyzing the effectiveness of training in achieving desired outcomes.
9) Identifying actions to be taken based on the results of the analysis, and tracking them to closure.

2. Implement the procedures for planning and delivering training.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Plan and deliver training according to the procedures.
3. Maintain and verify the procedures for planning and delivering training.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b4. Career development training can include personal development (e.g., presentation or meeting skills) and job-oriented development (e.g., technical or supervisory skills). Project- or client-specific training will include any training necessary to meet requirements (e.g., orientation, culture, or business). Organizational training can include development of skills needed to meet organizational objectives (input from *org_over_1_3*) and on the organization's policies, procedures, and functions.

Activity 1b7. Update the personnel competency inventory, as appropriate (output to km_over_6_3).

Activity 1b8. The primary purpose for analyzing the outcome of training is to determine whether the training has effectively improved personnel performance.

Methods for determining training effectiveness include obtaining and analyzing feedback from the trainee on the trainer, the training material, the training duration, and their ability to perform after training; conducting exams on the material taught; observing the effectiveness of trainees in the use of their training; and obtaining feedback from supervisors.

Activity 1b9. Actions taken may include retraining the trainees, retraining the trainers, replacing trainers, obtaining trainers from outside, and modifying the training material and method of training.

Attributes to Measure

- Training Costs
- Training effectiveness
- Training provided relative to plan

Meet identified personnel competency needs by providing training.

<u>Rationale</u>: Address the organization's personnel competency needs by providing training.

Providing adequate training enables the organization to develop the skills required to achieve defined performance objectives. Effective training enables the organization to address identified skill gaps and to achieve the personnel competencies needed to perform assigned roles and responsibilities.

Activities

1. Provide the support for determining training needs.
2. Meet identified training needs.
   a. Describe the purpose of meeting identified needs by providing training.
   b. Identify gaps in personnel competencies (input from *ppl_over_4_2*).
   c. Identify personnel who should receive training (input from *ppl_over_4_2*).
   d. Determine training requirements, based on identified gaps.
   e. Design or obtain training programs based on the identified requirements.
   f. Identify and provide the resources required for training (uses activities in *org_over_4_2*), including trainers (uses activities in *ppl_over_4_2*) and facilities (uses activities in *ppl_over_7_2*), as appropriate.
   g. Communicate training requirements to identified personnel.
   h. Deliver training, as appropriate.
   i. Maintain records of training provided, trainers, and trainees.
3. Periodically review the effectiveness and relevance of training in meeting identified needs, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2d. Requirements for both organization and engagement-level training have to be identified. Factors that affect the requirements include client market sectors; services offered; and, performance expectations such as client satisfaction, service levels, and efficiency targets.

Personnel should receive training on the organization’s policies, procedures and their role in the organization. Personnel who directly interact with the client or end-user should be trained on: the organization's services, managing client and end-user expectations, methods available for capturing client requirements; listening skills; interviewing skills; documentation of client requirements; identifying required cultural attributes; statutory and regulatory requirements; and, corrective action, including recovery from a service failure. Personnel involved in service design and deployment may be trained on technical skills for specific services, project management skills, leadership skills, and time management.

Activity 2e. Training programs include classroom coaching, simulation, on-the-job training, and group exercises.

Activity 2f. The materials and tools required include training manuals, work instructions, case studies, and exams on the material being taught.

Trainers may be identified based on their training skills, their relevant experience, and on feedback from participants in previous training programs.

Attributes to Measure

- Comprehensiveness of the training
- Effectiveness of the training
- Timeliness of the training

Establish and maintain a work environment that enables personnel to work effectively.

<u>Rationale</u>: Improve personnel satisfaction and retention and enable personnel to perform their tasks efficiently by providing an effective work environment.

An established, effective work environment supports the ability of personnel to consistently and efficiently perform tasks, thus enabling the organization to meet client requirements consistently.

Activities

1. Provide the support for establishing and maintaining an effective work environment.
2. Establish and maintain an effective work environment.
    a. Identify the characteristics of the work environment that impact work effectiveness and the factors that affect personnel.
    b. Identify the physical, social and legal requirements of the work environment.
    c. Design a work environment that will meet the identified requirements.
    d. Deploy a work environment according to the design.
        1) Configure the work environment in accordance with the security and confidentiality policies (input from *org_over_2_2*).
        2) Coordinate modification, acquisition or establishing of facilities.
        3) Coordinate movement and transfers of equipment.
        4) Coordinate delivery of equipment.
        5) Track assets.
    e. Communicate information about the work environment to relevant stakeholders.
3. Periodically review the effectiveness and relevance of the work environment, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. Attributes relating to the work environment include the corporate culture, such as an open door policy, grievance handling, physical space, food, and restroom facilities. Factors that affect personnel include noise, air and water quality, ergonomics, harassment, lighting, and safety.

Activity 2b. The physical, social, and legal requirements of the work environment are identified from the service design, industry norms, statutory or regulatory requirements (input from ops_over_10_2), client requirements, and feedback from personnel.

The physical environment includes individual and public elements such as space, storage, air-conditioning, water, light, safety, rest rooms, and food. Public spaces include space for meetings, training, cafeterias, and recreation.

Activity 2e. Information communicated about the work environment may include fire safety procedures, workspace requirements, and space and phone assignments.

Activity 3. Verification of the quality of the work environment is carried out through soliciting feedback from personnel, inspections, and comparison with industry norms.

Attributes to Measure

- Quality of work environment
- Effectiveness of work environment monitoring

Establish and implement a policy to provide personnel with opportunities for career development.

<u>Rationale</u>: *Develop and retain personnel who have the competencies needed by the organization by providing clearly defined career paths and opportunities for them to develop their skills and knowledge.*

A documented policy demonstrates management commitment to career development of personnel. The ability to develop and retain personnel who have the competencies needed by the organization is a key to success in a dynamic business environment. This is achieved through motivating personnel by providing clearly defined career paths and opportunities for the personnel to develop their skills and knowledge. Career development also enables the organization to better achieve its objectives by motivating personnel and improving their personnel's capabilities.

Activities

1. Establish the policy for providing personnel with opportunities for career development.
   a. Plan and provide the support for establishing the policy.
   b. Document the policy. These policy addresses:
      1) Describing the purpose for the policy on providing personnel with opportunities for career development.
      2) Defining roles, responsibility and authorities of the personnel implementing the policy (uses activities in *org_over_5_3*).
      3) Establishing a personnel career development model.
         a) Determining all roles covered by the model (input from *org_over_5_3*).
         b) Determining frequency of appraisals (input from ppl_over_10_3).
         c) Determining career paths for roles.
         d) Determining methods of obtaining feedback from personnel on their career development.
      4) Aligning the model with organizational objectives (input from *org_over_1_3*).
      5) Communicating the model to the appropriate personnel.
      6) Obtaining feedback on the policy and career development model (uses activities in km_over_8_3).
      7) Establishing personnel career plans.
         a) Determining personnel career goals.
         b) Identifying opportunities for career development of personnel.
      8) Tracking progress of personnel career development based on their career plans.

2. Implement the policy for providing personnel with opportunities for career development.
   a. Create a plan for implementing the policy.
   b. Provide the support for implementation of the policy.
   c. Communicate the policy to the appropriate personnel.
   d. Provide personnel with opportunities for career development according to the policy.
3. Maintain and verify the policy for providing personnel with opportunities for career development.
   a. Maintain and periodically review the policy and actions taken to implement the policy (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the policy across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b7. Information in a personnel career plan includes career objectives, career paths to achieve those objectives, and competencies needed to progress toward the career objectives.

Activity 1b8. The progress of an individual through a career plan is tracked through self-assessment; formal or informal performance appraisals; review by peers, mentors, or coaches; additional professional qualifications; and tests and evaluations.

Attributes to Measure

- Pervasiveness of policy awareness
- Pervasiveness of policy training
- Pervasiveness of policy understanding
- Pervasiveness of policy adherence
- Effectiveness of the policy

Establish and implement a policy on the participation of personnel in decisions that affect their work commitments.

<u>Rationale</u>: Improve the quality of the organization's decision-making by encouraging participation of the affected personnel.

A documented policy demonstrates management commitment to participation of personnel in decision-making. Participation in decision-making leverages the knowledge of the staff, motivates them to perform better, and establishes their buy-in to work commitments. Decision making styles may vary from consensus-based to hierarchical. Policy should be consistent with whichever decision style is part of the organizational culture.

Activities

1. Establish the policy on the participation of personnel in decisions that affect their work commitments.
   a. Plan and provide the support for establishing the policy.
   b. Document the policy. These policy addresses:
      1) Describing the purpose for getting the participation of personnel in decisions that affect their work commitments.
      2) Defining roles, responsibility and authorities of the personnel implementing the policy (uses activities in *org_over_5_3*).
      3) Aligning the policy with organizational objectives (input from *org_over_1_3*).
      4) Identifying in current and future work commitments, and changes to those commitments.
      5) Informing personnel about current and future work commitments.
      6) Obtaining feedback from affected personnel and teams about the work commitments.
      7) Incorporating feedback into decisions taken about the work commitments.
      8) Involving personnel, as appropriate, in reviewing the progress against commitments and in revising commitments.
2. Implement the policy on the participation of personnel in decisions that affect their work commitments.
   a. Create a plan for implementing the policy.
   b. Provide the support for implementation of the policy.
   c. Communicate the policy to the appropriate personnel.
   d. Get participation of personnel in decisions that affect their work commitments according to the policy.

3. Maintain the policy on the participation of personnel in decisions that affect their work commitments.
    a. Maintain and periodically review the policy and actions taken to implement the policy (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
    b. Verify consistency of implementation of the policy across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b1. Personnel include individuals and teams.

Attributes to Measure

- Pervasiveness of policy awareness
- Pervasiveness of policy training
- Pervasiveness of policy understanding
- Pervasiveness of policy adherence
- Effectiveness of the policy

Establish and implement procedures to appraise individual and team performance.

<u>Rationale</u>: Enhance the capability of personnel by identifying strengths and weaknesses of individuals and teams, providing appropriate feedback, and identifying appropriate actions to take.

An established procedure for performance appraisal supports consistently and effectively building the capability of personnel and providing appropriate awards and incentives (ppl_over_11_3). Improving the capability of personnel and teams enables the organization to better achieve its objectives.

Activities

1. Establish the procedures for conducting performance appraisals for teams and individuals.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for conducting performance appraisals for teams and individuals.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Defining the attributes to be appraised.
      4) Aligning the attributes to be appraised with engagement and organizational objectives, and role definitions (input from *org_over_1_3*, *org_over_5_3*, *ops_over_1_2*).
      5) Defining and documenting the criteria used for evaluating the defined attributes.
      6) Defining and documenting the methods used for, and frequency of performance appraisals (output to ppl_over_8_3).
      7) Obtaining feedback and getting commitment from teams and individuals on the defined criteria and attributes.
      8) Gathering information on the defined attributes.
      9) Conducting the performance appraisals at the defined frequency.
      10) Documenting the results of performance appraisals of teams and individuals.
      11) Analyzing the results and identifying necessary actions to be taken (output to ppl_over_11_3).

12) Communicating the results of the appraisal and actions to be taken to appropriate personnel.

13) Tracking to closure the actions discussed and agreed upon.

2. Implement the procedures for conducting performance appraisals for teams and individuals.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the performance appraisal procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Conduct performance appraisals for teams and individuals, according to the procedures.
3. Maintain and verify the procedures for conducting performance appraisals for teams and individuals.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b3. This includes quantitative (e.g., efficiency, profitability, on time and on budget) and qualitative (e.g., leadership, client satisfaction, and employee satisfaction) attributes. Attributes can be defined by a review of organizational and engagement objectives, competency needs and training objectives (input from *org_over_1_3*, *ops_over_1_2*, *ppl_over_2_3*, *ppl_over_5_3*).

Activity 1b11. Actions taken based on appraisal results include counseling, retraining individuals or teams, rewarding, identifying areas of improvement in the organization, and changing existing procedures.

Attributes to Measure

- Comprehensiveness of the appraisal system
- Effectiveness of the appraisal system
- Timeliness of appraisals

Establish and implement a reward program that encourages the achievement of organizational objectives.

<u>Rationale</u>: Reward personnel for performance and achievement to motivate them and retain skills that are critical for achieving organizational objectives.

Rewarding personnel for performance and achievement enables the organization to retain skills that are critical for achieving organizational objectives. It also enables the organization to better achieve its objectives by motivating personnel and improving their capability.

Activities

1. Establish a reward program to encourage the achievement of organizational objectives.
   a. Plan and provide the support for implementing a reward program.
   b. Document the reward program. The reward program includes:
      1) Describing the purpose for implementing a reward program.
      2) Identifying the organizational objectives whose achievement should be rewarded (input from *org_over_1_3*).
      3) Determining the rewards necessary to encourage achievement of the identified organizational objectives.
      4) Defining the attributes to be rewarded.
      5) Defining and documenting the measures for the attributes that are to be rewarded.
      6) Defining and documenting the methods used for monitoring the identified attributes.
      7) Defining ranges of acceptable performance for each of the measures.
      8) Gathering performance measures for the defined attributes.
      9) Periodically reviewing performance against defined criteria and providing awards, as appropriate.
      10) Communicating the outcomes to relevant stakeholders.
2. Implement a reward program to encourage the achievement of organizational objectives.
   a. Create a plan for implementing the reward program.
   b. Provide the support for implementation of the reward program.
   c. Communicate the reward program to relevant stakeholders.
   d. Reward the achievement of organizational objectives.

3. Maintain and verify the implementation of the reward program.

   a. Maintain and periodically review the reward program and actions taken to implement the reward system (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the reward program across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b. Approaches to a reward program may include profit sharing and changes in compensation.

Activity 1b3. Achievement of objectives may require individual as well as team effort. Consideration should be given to whether the best way to achieve an objective is to base rewards on team performance, rather than just individual performance.

Types of reward may include bonuses, cash awards, plaques, certificates, gift items, public recognition, trips, and celebrations.

Activity 1b4. The attributes may be based on the performance of personnel (quantity of work, service quality, supervisory skills, and attendance); client feedback; recognition from the client; milestones met; and initiatives shown by the personnel and team such as skill development.

Attributes to Measure

- Comprehensiveness of the reward system
- Effectiveness of the reward system

Assign a team to interact with the client.

<u>Rationale</u>: Enable the organization to interact effectively with the client during the sourcing process by forming and maintaining a team that includes personnel who have knowledge of the organization, the client, and the client's business.

Forming a team involving personnel who have knowledge of the organization, the client, and the client's business should enable the organization to interact effectively with the client throughout the sourcing process. Maintaining the team through the sourcing process, and updating team composition depending on the needs at each phase of the process, helps the organization maintain continuity in its relationships with clients.

This Practice is related to ppl_pre_2, which covers the establishment of a negotiation team. The negotiation team may include some, or all, of the members of the client interaction team (ppl_over_12_2).

Activities

1. Provide the support for assigning a team to interact with clients.
2. Assign a team to interact with clients.
   a. Identify the attributes required for the client interaction team.
   b. Define client interaction team roles and responsibilities based on the identified attributes.
   c. Assign personnel to the client interaction team based on their skills (uses activities in *ppl_over_4_2*).
   d. Provide training, as appropriate (uses activities in *ppl_over_6_2*).
   e. Identify and provide the resources required by the client interaction team (uses activities in *org_over_4_2*).
   f. Provide the information required by the client interaction team (input from org_pre_2_2, ops_over_5_2; uses activities in *km_over_2_2*).
   g. Communicate the team assignments and responsibilities to the appropriate personnel.
3. Periodically review the attributes required for the client interaction team. Change team composition depending on changes in required attributes.

Supplemental Information

Activity 2a. Attributes for the team will depend on the phase of the sourcing process, the client, and the services offered to the client.

Activity 2b. Team responsibilities include client reviews, gathering requirements, issue resolution, coordinating service changes, and determining appropriate communication methods.

Activity 2d. The personnel required to interact with the client can be trained in the client's domain area, interviewing techniques, listening skills, negotiation, gathering requirements and communication.

Activity 3. Changes in required attributes may occur due to changes in the phase of the sourcing relationship. For instance in the pre-contract phase when the organization has not had any previous interaction with a potential client the client interaction team will have more of an emphasis on sales and marketing. As the relationship progresses towards a contract the team composition should change to include personnel with negotiation and technical skills.

As long as there is a relationship with a client, or potential client, there will be a client interaction team. To assure consistency of service (and understanding of needs) there should be some continuity of team members across the entire sourcing process.

Attributes to Measure

- Qualifications of the team
- Client satisfaction
- Effectiveness of the team

Analyze the effectiveness of the training in achieving its intended objectives.

<u>Rationale</u>: Ensure that training has a positive and cost-effective impact on individual and group performance, attitudes, and behaviors.

The organization monitors the effectiveness of training to help ensure that the personnel trained and deployed are qualified to perform their assigned roles. Observing the effect of new skills and competencies on job performance enables the organization to determine the effectiveness of the training. It also aids in improving the quality of training and can be used in a cost/benefit analysis of the training program.

This Practice expands on training effectiveness analysis introduced in *ppl_over_5_3*. While *ppl_over_5_3* includes an activity on analyzing training effectiveness, ppl_over_13_4 is expanded to require a much more comprehensive analysis of effectiveness of training in achieving formally defined objectives. Evaluation of training should address not just immediate feedback from learners (e.g., reactions to training and measures of learning), but should also provide longer-term or follow-up evaluations. These longer-term evaluations should also assess the impact of training on the overall growth of the personnel competencies in the organization, as well as the impact on meeting specified business goals.

Activities

1. Plan and provide the support for analyzing the effectiveness of the training in achieving its intended objectives.
2. Analyze the effectiveness of the training in achieving its intended objectives (output to *ppl_over_5_3*).
   a. Identify sources and classes of information about training effectiveness.
      1) Identify training objectives and desired outcomes based on competency needs and organizational and engagement objectives (input from *org_over_1_3*, *ppl_over_2_3*, *ppl_over_5_3*, *ops_over_1_2*).
      2) Identify training programs (input from *ppl_over_5_3*).
      3) Identify trainers and personnel trained (input from *ppl_over_5_3*).
      4) Identify relevant stakeholders.
   b. Define attributes to measure to evaluate the effectiveness of the training (input from *ppl_over_5_3*, ppl_over_10_3, *org_over_7_3*).
   c. Define and document the performance measures for the attributes.
   d. Define and document methods used for monitoring the identified attributes.
   e. Define ranges of acceptable performance for each of the measures.
   f. Gather measures and obtain feedback from relevant stakeholders for the defined attributes.
   g. Periodically review effectiveness of training against defined criteria.
   h. Identify gaps between actual and expected training outcomes and take corrective action, as appropriate (output to org_over_16_3, ops_over_6_3, ops_over_7_4).
   i. Communicate the effectiveness of the training, and actions to be taken, to relevant stakeholders.

3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2*; input from *org_over_7_3*).

Supplemental Information

Activity 2a. Sources of information should provide insights into training effectiveness during transition and contract execution as well as during contract completion.

Activity 2a4. Stakeholders could include training participants, instructors, and the participant's supervisor. Stakeholders could also include customers, clients or peers who can provide feedback on trainees' performance.

Activity 2b. Attributes to measure can be related to measures in several categories, including:

- Learner reactions to training,
- Measures of learning,
- Measures of on-the-job behavior or performance, and
- Measures of organizational effectiveness and results.

Attributes relating to student reactions to training can address learner's perceptions of the utility of training, materials, and course structure and learner's satisfaction with the instructors, training management and course administration, and the testing process.

Measures of learning can address increase in skills and/or knowledge after training and effectiveness of different types of training (e.g., self-study, CBT, face-to-face classroom or remote classroom). Other relevant attributes include cost, level of effort, and acquisition versus internal development or delivery.

Activity 2h. Individual performance data as well as team or group, supervisor, and customer or client feedback on performance should be used to inform analyses to determine performance improvements.

Analyses of training effectiveness can be used to update training and other programs (output to *org_over_6_4*, *ppl_over_5_3*).

Attributes to Measure

- Coverage of the training evaluation
- Effectiveness of the evaluation

Assign a team to understand the prospective client's requirements and position the organization's capabilities.

<u>Rationale</u>: Enable the organization to understand client needs and expectations by involving personnel who have knowledge of the market sector, service, and the client or prospective client.

Forming a client interaction team that includes personnel with knowledge of the market sector, service, and the client or prospective client enables the organization to understand the client's needs clearly and comprehensively. The formation of relationships with a client depends on the organization's ability to offer a value proposition based on knowledge and insight.

This Practice is related to ppl_over_12_2, which covers the establishment of a client interaction team. The activities covered in this Practice (ppl_pre_1_3) are a further enhancement of the roles and responsibilities of the team created in ppl_over_12_2 and focus on marketing the organization to a client.

Activities

1. Plan and provide the support for assigning a team to understand the prospective client's requirements and position the organization's capabilities.
2. Assign a team to understand the prospective client's requirements and position the organization's capabilities.
   a. Identify the attributes required for the team.
   b. Define team roles, responsibility and authorities (uses activities in *org_over_5_3*).
   c. Assign appropriate personnel to the team (uses activities in ppl_over_12_2).
   d. Communicate the team assignments and responsibilities to the appropriate personnel.
   e. Plan and provide training, as appropriate (uses activities in *ppl_over_5_3*).
   f. Identify and provide the resources required by the team (uses activities in *org_over_4_2*).
   g. Provide the information required by the team, including marketing information, client information, guidelines for negotiation, and information on the organization's capabilities and objectives (uses activities in *km_over_2_2*; input from *org_over_1_3*, org_over_12_3, org_pre_1_3, km_over_6_3, km_over_7_3, km_over_9_3, km_pre_1_3).
   h. Determine the positioning approach based on an analysis of the organization's capabilities and objectives.
   i. Communicate the positioning approach to relevant stakeholders.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).

Supplemental Information

Activity 2a. Attributes to be considered in choosing personnel for interacting with, and proposing solutions to, clients include market sector expertise, service expertise, communication skills, listening skills, comprehension skills, relationship management skills, and crisis handling skills.

Attributes to Measure

- Qualifications of the team
- Effectiveness of the team
- Quality of the requirements

Assign a team to negotiate with clients.

Rationale: Enable the organization to negotiate effectively with the client by assigning personnel with knowledge of the market sector, service, and client to the negotiation team, ensuring a prepared team that can provide continuity in client interactions.

Forming a negotiation team that includes personnel with knowledge of the market sector, service, and the client, provides a level of preparedness that is essential for framing successful sourcing contracts.

This Practice is related to ppl_over_12_2, which covers the establishment of a client interaction team. The activities covered in this Practice (ppl_pre_2_2) focus on the roles and responsibilities of the client interaction team (ppl_over_12_2) during negotiation with clients.

Activities

1. Provide the support for assigning a negotiation team.
2. Assign a negotiation team.
   a. Identify the attributes required for a negotiation team.
   b. Define negotiation team roles and responsibilities based on the identified attributes.
   c. Assign personnel to a negotiation team based on their skills and provide training, as appropriate (uses activities in ppl_over_12_2).
   d. Identify and provide the resources required by a negotiation team (uses activities in *org_over_4_2*).
   e. Provide the information required by a negotiation team (input from org_pre_2_2; uses activities in *km_over_2_2*).
   f. Communicate the team assignments and responsibilities to the appropriate personnel.
3. Periodically review the attributes required for a negotiation team. Change team composition depending on changes in required attributes.

Supplemental Information

Activity 2c. The negotiation team is the client interaction team (uses activities in ppl_over_12_2) during the negotiation phase of the sourcing process. During this phase, the team composition should be changed, as appropriate, to include personnel with some of the attributes listed below.

Attributes to be considered in choosing personnel to negotiate with clients include prior experience; presentation skills, communication skills, conflict resolution skills; knowledge of issues under negotiation, including price, technology, service levels, statutory and regulatory issues, and personnel transition; and knowledge of the prospective client's business.

Attributes to Measure

- Qualifications of the team
- Effectiveness of the team
- Quality of the contract terms

Assign a team to design and deploy the service according to client requirements.

<u>Rationale</u>: Enable the organization to successfully translate the client's requirements into the intended service, including expected service levels, by assigning skilled and experienced personnel to design and deploy the services based on those requirements.

The successful delivery of services depends on the organization's ability to translate the client's needs and requirements, including expected service levels, into the intended service. Assigning skilled and experienced personnel supports the ability to interpret the captured client requirements and use them for designing and deploying the services.

Activities

1. Provide the support for assigning a design and deployment team.
2. Assign design and deployment team.
   a. Identify the attributes required for the design and deployment team.
   b. Define design and deployment team roles and responsibilities based on the identified attributes.
   c. Assign personnel to the design and deployment team based on their skills (uses activities in *ppl_over_4_2*).
   d. Provide training, as appropriate (uses activities in *ppl_over_6_2*).
   e. Identify and provide the resources required by the design and deployment team (uses activities in *org_over_4_2*).
   f. Provide the information required by the design and deployment team (uses activities in *km_over_2_2*).
   g. Communicate the team assignments and responsibilities to the appropriate personnel.
   h. Identify and document contact personnel from different organizational functions, or from external sources, that affect the service design and deployment.
   i. Communicate to the personnel or teams the performance expectations that were committed to the client (uses activities in org_exe_1_2).
3. Periodically review the attributes required for the design and deployment team. Change team composition depending on changes in required attributes.

Supplemental Information

Activity 2a. Attributes to be considered in selecting the personnel for service design and deployment include market sector and service expertise, communication skills, learning ability, adaptability, crisis management skills, time management ability, and work allocation skills.

Activity 2c. Personnel include those required for coordination and control such as team leaders or supervisors, production managers, project managers, project coordinators, and quality control specialists.

Activity 2d. Training for the design and deployment team covers usage of estimation and planning techniques; tools to be used in design and deployment activities, including technology infrastructure; and project management.

Activity 2h. Contact personnel include personnel responsible for coordination, and reporting and escalation channels. Organizational functions that affect the service design and development include human resources, finance, purchasing, commercial, and technology. External participants include client, subcontractors, and vendors.

Activity 2i. Performance expectations include service levels, service design and deployment milestones, service delivery milestones, and error limits.

Attributes to Measure

- Qualifications of the team
- Effectiveness of the team
- Quality of the service design

Establish and implement procedures to manage the transfer of personnel and skills from the client during transition and contract execution.

<u>Rationale</u>: *Enable the organization to provide the expected service promptly and efficiently by smoothly transferring personnel and skills from the client during contract initiation and execution.*

An established procedure for transferring personnel and skills from the client supports consistently and effectively integrating those skills into the organization's workforce competencies. This enables the organization to meet the client's expectations and needs.

Activities

1. Establish the procedures for managing the transfer of personnel and skills from the client.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for managing the transfer of skills and personnel during transition and contract execution.
      2) Gathering information about the current conditions related to personnel available for transfer.
      3) Analyzing information about current conditions at the client and the organization.
      4) Establishing a transfer approach based on the analysis (input from org_pre_3_2; output to ops_exe_4_2).
      5) Determining dispute handling and escalation methods.
      6) Making offers to identified personnel.
      7) Transferring personnel who accepted offers (output to ops_exe_16_2 and ops_exe_8_2).
         a) Providing orientation.
         b) Providing training, as appropriate (uses activities in *ppl_over_6_2*).
      8) Developing outplacement services for personnel not transferred, as appropriate.
      9) Providing resources to transferred personnel (uses activities in *org_over_4_2*).

2. Implement the procedures for managing the transfer of personnel and skills from the client.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Manage the transfer of personnel and skills from the client according to the procedures.
3. Maintain the procedures for managing the transfer of personnel and skills from the client and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Information to be collected includes current level of benefits and compensation, resources available, personnel skills, job titles and reporting structure, and cultural attributes (e.g., casual dress, decision style, communication style).

Activity 1b4. Transfer approach needs to address equalization of benefits and compensation, offers (are all affected personnel being given offers, or just some), deficiencies in skills, and management of risk (e.g., key personnel do not take the transfer offer).

Activity 1b7a. Orientation should include information on cultural attributes and norms that are unique to the organization (or different from the client).

Activity 1b9. Resources may include information on reporting structures, procedures and policies, and access to corporate infrastructure (e.g., security passes, business cards, e-mail accounts, equipment).

Attributes to Measure

- Retention of staff transitioned into the organization
- Effectiveness of the procedure

Establish and implement procedures to manage the transfer of personnel and skills to the client during contract completion.

<u>Rationale</u>: *Enable the organization to fulfill contractual obligations and preserve or enhance client relationships by smoothly transferring personnel and skills back to the client after contract completion.*

An established procedure for transferring personnel and skills to the client supports consistently and effectively addressing competency gaps opened by the loss of those personnel and skills and supports the client in using those acquired personnel and skills effectively.

Activities

1. Establish the procedures for managing the transfer of personnel and skills during contract completion.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for managing the transfer of skills and personnel during contract completion.
      2) Identifying the personnel and skills that are being transferred to the client during contract completion.
      3) Determining dispute handling and escalation methods.
      4) Identifying and resolving any issues related to the transfer.
      5) Transferring skills and personnel back to the client.
      6) Documenting the personnel transferred back (output to ops_post_1_2).
      7) Obtaining documented client acceptance for personnel transferred back (output to ops_post_1_2).
      8) Developing exit procedures for personnel transferred back.
      9) Identifying any skills or personnel requirements that are deficient as a result of the transfer. Provide training, as appropriate (uses activities in *ppl_over_6_2*).
2. Implement the procedures for managing the transfer of personnel and skills.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Manage the transfer of personnel and skills according to the procedures.

3. Maintain the procedures for managing the transfer of personnel and skills and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. This information may be fully or partially specified in the contract or contract amendments (input from org_pre_3_2). Further detail may be agreed upon in other documentation, e g., service specification (input from ops_exe_4_2).

Activity 1b4. Issues that arise may include disparities in benefits and relocation provisions.

Activity 1b8. This may include exit interviews, revoking of security and access privileges, and return of organization’s proprietary materials. Exit procedures may be based on existing termination processes or procedures.

Activity 1b9. An analysis of the personnel transferred to the client will determine the impact of the loss of skills on an organization’s performance and the number and profile of the skilled personnel needed to replace the transferred personnel.

Attributes to Measure

- Comprehensiveness of skills transitioned to the client
- Effectiveness of the procedure

Define and communicate engagement objectives.

<u>Rationale</u>: Set directions, create a client focus, and define performance expectations via clear engagement objectives as prerequisites for forming, managing, and expanding sourcing relationships.

The engagement objectives are used as a basis for defining relevant functional, departmental, team and individual objectives. An organization needs to clearly outline and communicate engagement-level objectives both externally and internally within the organization. A clear understanding of engagement objectives supports effective expectations management with the client and is a prerequisite for the formation, management, and expansion of successful sourcing relationships.

Activities

1. Provide the support for defining and communicating engagement objectives.
2. Define and communicate the engagement objectives.
   a. Define engagement objectives and incorporate the engagement objectives at appropriate levels in the organization (output to *org_over_4_2*, *ppl_over_4_2*).
   b. Ensure objectives address security, confidentiality, protection of intellectual property, and risk (output to *org_over_2_2*, *org_over_3_2*).
   c. Create a plan for communicating and achieving the objectives.
   d. Ensure activities performed by the organization are aligned with engagement objectives (output to *org_over_2_2*, *org_over_3_2*, *ops_over_2_2*).
   e. Communicate the objectives to the relevant stakeholders.
3. Periodically review and revise the engagement objectives, as appropriate.

Supplemental Information

Activity 1. The information needed for setting engagement objectives includes expected performance, existing organizational standards, and feedback from the client at different stages of the contract.

Activity 2a. Objectives should be as measurable as possible, focusing on providing service to the client. The objectives relate to factors that influence client satisfaction or operational improvement, for example, "Increase client satisfaction by x%," and "Improve operational efficiencies by y%." The objectives should address and balance the needs of all stakeholders.

Engagement objectives are established at appropriate levels by defining relevant functional, departmental, team, and individual objectives.

Define timeframes for achieving the objectives.

Attributes to Measure

- Effectiveness of Objective communication
- Attitudes about the objectives

Establish and implement procedures to measure and verify that process and service commitments are satisfied.

<u>Rationale</u>: Ensure customer satisfaction, in part, by verifying that commitments have been met.

Verification typically encompasses a combination of reviews and audits by management, or designated personnel, to help ensure that activities are being performed as expected and work products are complying with appropriate levels of quality. This enables the organization to proactively ensure that service levels are being met and to take action when commitments are in danger of not being satisfied. Using measurements to support the verification activities enables management to use quantitative and qualitative data as the basis for deciding which actions are appropriate for addressing potential quality issues.

Activities

1. Establish the procedures for measuring and verifying satisfaction of process and service commitments.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for measuring and verifying satisfaction of process and service commitments.
      2) Defining the process, work product, and service attributes to be verified to ensure that client and engagement objectives are met (input from *ops_over_1_2*).
      3) Defining and documenting the performance measures for the attributes that need to be verified.
      4) Defining and documenting the methods used for monitoring the defined attributes.
      5) Defining ranges of acceptable performance for each of the measures.
      6) Gathering performance measures for the defined attributes.
      7) Periodically reviewing the process, work product, and service against defined criteria.
         a) Comparing performance measures against defined ranges of acceptable performance.
         b) Reviewing adherence of activities performed to the defined procedures.
         c) Determining effectiveness of the procedures and their relevance to existing operations (input from *ops_over_1_2*).
         d) Determining effectiveness of actions taken to implement the procedures or processes.
         e) Ensuring that processes and work products are in compliance with organizational standards, as appropriate.

8) Identifying gaps between actual and expected performance and taking corrective actions, as appropriate.
9) Communicating results of the review, and actions taken, to relevant stakeholders.

2. Implement the procedures for measuring and verifying satisfaction of process and service commitments.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Measure and verify satisfaction of process and service commitments according to the procedures.
3. Maintain the procedures for measuring and verifying satisfaction of process and service commitments and periodically review the procedures and actions taken to implement the procedures.

Supplemental Information

Activity 1a. Make sure personnel performing the verification are independent of the personnel performing the activities being verified.

Activity 1b2. Attributes to be verified should include compliance of products with agreed standards, compliance of activities related to services with defined processes or procedures, and effectiveness of procedures and service delivery.

Activity 1b9. Stakeholders include clients, personnel performing the activities being verified, and subcontractors or vendors, as appropriate.

Attributes to Measure

- Completion of planned verification activities
- Coverage of verification activities
- Effectiveness of verification activities

Establish and implement procedures to select subcontractors and vendors based on their ability to meet identified requirements.

Rationale: Select capable subcontractors and vendors, since the organization's ability to serve its clients is directly impacted by the performance of its subcontractors and vendors.

An established procedure for selecting subcontractors and vendors supports consistently selecting qualified subcontractors and vendors. Subcontractors and vendors are integral to meeting the engagement objectives if subcontractors or vendors are used. Capable subcontractors and vendors help ensure consistency in meeting client requirements and service levels. Failures of incapable subcontractors and vendors could lead to failure of the engagement and even legal action by the dissatisfied client.

Subcontractors or vendors may become involved at any time during the sourcing process, depending on the relationship between the organization, subcontractor or vendor, and client. Some relationships between the organization and the subcontractor or vendor may be closer to an alliance or partnership, with the subcontractor or vendor involved with the client as early as contract negotiations. Other subcontractor or vendor relationships may not start until after the contract with the client is finalized and requirements are agreed upon (input from ops_pre_3_2). In other cases the client may specify which subcontractors or vendors will be involved with the execution of the contract.

Activities

1. Establish the procedures for selecting subcontractors and vendors, based on their ability to meet identified requirements.
   a. Provide the support for establishing the subcontractor and vendor selection procedures.
   b. Document the subcontractor and vendor selection procedures. These procedures address:
      1) Describing the purpose for selecting subcontractors and vendors based on their ability to meet identified requirements.
      2) Identifying requirements subcontractors and vendors need to meet (input from org_pre_3_2, ops_pre_1_2).
      3) Determining the criteria for selection of subcontractors and vendors based on the identified requirements.
      4) Collecting information on prospective subcontractors and vendors and their ability to meet identified requirements.
      5) Evaluating the ability of prospective subcontractors and vendors to meet identified requirements.
      6) Selecting subcontractors and vendors based on the determined selection criteria.
      7) Defining service expectations based on identified requirements.
      8) Determining rights, responsibilities, and ownership of current and future intellectual property (uses activities in ops_over_9_2).
      9) Providing subcontractors and vendors access to resources they need in order to understand, and determine their ability to meet, the service expectations (uses activities in *org_over_4_2*).

        10) Defining and documenting steps to receive, analyze, and address clarifications required by subcontractors and vendors.
        11) Determining attributes to be monitored during execution of subcontractor or vendor activities (output to ops_over_4_2).
        12) Determining monitoring methods and duration for execution of subcontractor or vendor activities (output to ops_over_4_2).
        13) Determining dispute handling and escalation methods.
        14) Establishing and maintaining a formal agreement with the subcontractors and vendors who have been selected, ensuring that the agreement supports client service level requirements and licensing requirements (input from tech_over_4_2).
        15) Communicating the agreement to the relevant stakeholders.

2. Implement the procedures for subcontractor and vendor selection.
    a. Provide the support for implementation of the selection procedures.
    b. Communicate the procedures to the appropriate personnel.
    c. Select subcontractors and vendors, according to the procedures, based on their ability to meet identified requirements.
3. Maintain the procedures for selecting subcontractors and vendors and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Requirements are usually specific to a client contract (input from org_pre_3_2). However, requirements may be broader and based upon organization needs (e.g., telecommunications support for a call center with multiple client contracts).

Activity 1b3. The selection criteria include factors such as prior experience in providing similar services or products, minimum capacity in terms of their resources, their location, statutory issues, and their market share. Other capabilities that an organization should consider include track record demonstrating capability to deliver required quality within contracted delivery schedules; pricing; referrals from past clients; personnel skills, including project management and organization skills; management systems; financial strength and stability; and infrastructure reliability, including redundancies.

Activity 1b6. Subcontractors and vendors can be selected from a short list of preferred vendors. Preferred vendors will already have been analyzed for their capabilities and the organization can select the subcontractor(s) or vendor(s) whose capabilities enable them to meet the identified requirements.

Activity 1b11. Determining monitoring attributes for subcontractor or vendor activities may occur as a stand-alone planning activity but is more likely to be part of planning for service delivery (uses activities in ops_exe_15_2).

Activity 1b12. The nature and level of monitoring depends on the kind of service or product, and the prior experience with the subcontractor or vendor.

The monitoring may be in the form of a status or coordination review, a technical review, or other types of formal reviews. A status or coordination review includes cost, staffing, performance against commitments, risks addressed, conflict resolution, and corrective actions taken. A technical review includes verifying the implementation and interpretation of technical requirements, and verifying the timely resolution of technical issues.

Activity 1b14. The agreement with the selected vendors or subcontractors should include provisions for security and confidentiality that adequately satisfy the organization's policies on security and confidentiality (uses activities in *org_over_2_2*).

Attributes to Measure

- Pervasiveness of procedure adherence
- Selected subcontractor's ability to meet requirements
- Effectiveness of the procedure

[redacted]

Monitor the performance of subcontractors and vendors against their commitments, and take appropriate action.

<u>Rationale</u>: Help ensure that commitments will be met by identifying deviations in subcontractor and vendor performance in a timely manner and taking appropriate corrective action.

Even capable subcontractors and vendors may have problems. Monitoring of subcontractors and vendors, and appropriate remedial action when necessary, is an intrinsic part of the management activities that enable the organization to meet service level commitments to its clients.

Monitoring the performance of subcontractors and vendors may occur as a stand-alone monitoring activity but is more likely to be part of service delivery monitoring (uses activities in ops_exe_16_2).

Activities

1. Provide the support for monitoring the performance of subcontractors and vendors.
2. Monitor the performance of subcontractors and vendors against their commitments.
   a. Determine dispute handling and escalation methods.
   b. Monitor subcontractor and vendor activities using the defined attributes and monitoring methods (input from ops_over_3_2).
   c. Analyze results from the monitoring and determine actions to be taken.
   d. Maintain records on subcontractor or vendor performance.
   e. Identify and track to closure actions to be taken when actual performance does not meet required outcomes.
   f. Communicate the status of subcontractor and vendor activities to the relevant stakeholders.
3. Periodically review the effectiveness and relevance of the monitoring, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2c. The actions taken include awarding additional contracts, reducing the amount of work subcontracted, increasing or decreasing the frequency of monitoring, and providing additional training to subcontractors.

Activity 2d. Records may be used to determine type of future relationship with the subcontractor or vendor, including expanding or curtailing the relationship.

Activity 2e. For a specific subcontractor or vendor agreement, required outcomes are based on service expectations (input from ops_over_3_2).

Attributes to Measure

- Quality of subcontracted services
- Action item status
- Quality of subcontractor relationship

Establish and implement procedures to document interactions with clients.

<u>Rationale</u>: Demonstrate a clear understanding of the client's needs by clearly documenting client interactions.

An established procedure for client interaction supports consistently capturing a common, comprehensive understanding with the client. Capturing client interactions aids in clearly understanding the client's needs and coordinating the work. Unaided memories can blur over time; documented interactions provide an external record that helps the organization effectively meet client requirements. It also provides documentary evidence for problem analysis in case disputes occur.

Activities

1. Establish the procedures for documenting client interactions.
   a. Provide the support for establishing the interaction capture procedures.
   b. Document the interaction documentation procedures. These procedures address:
      1) Describing the purpose for documenting client interactions.
      2) Identifying the types of client interactions that need to be documented.
      3) Defining the information to be documented for each type of client interaction.
      4) Defining the methods and media for documenting client interactions.
      5) Obtaining client sign off, as appropriate, on information that has been documented.
      6) Tracking and closing any open issues or decisions made.
2. Implement the procedures for documenting client interactions.
   a. Provide the support for implementation of the interaction documentation procedures.
   b. Communicate the procedures to the appropriate people (output to ppl_over_12_2).
   c. Capture client interactions, according to the procedures.
3. Maintain the procedures for documenting client interactions and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Types of interactions to document are formal meetings, change requests, contract negotiations, and client feedback. Interactions leading to the production of documents such as RFPs, RFQs, proposals, requirements specifications, contracts, approvals, reports related to the status of service design and delivery, clarifications provided by clients, feedback, and requests for service delivery should be captured.

Activity 1b3. Information associated with a client's interactions includes an originator, a respondent, the date and time, and the nature and status of the interaction.

Activity 1b5. Client approval for solutions or decisions may be obtained in the form of formal sign-offs.

Activity 2a. Tools used to capture client interactions include questionnaires, templates, spreadsheets, e-mail, and specialized software.

Attributes to Measure

- Size of client interactions
- Amount of client interactions
- Integrity of client interaction records

Establish and implement procedures to prevent reoccurrence of identified problems.

<u>Rationale</u>: Change the design and deployment of services to prevent the reoccurrence of problems as part of controlling and improving organizational performance.

Problems routinely occur during the performance of activities in an organization. Effectively identifying problems and taking appropriate remedial action to prevent their reoccurrence is critical for controlling and improving organizational performance. In this Practice, organizational learning and process improvement should occur as well as corrective action being taken to address the problem.

This Practice is related to ops_exe_6_3, which covers responding to potential failures in delivery of service. The focus of ops_exe_6_3 is on anticipating potential failures in service delivery and being prepared with a set of actions to respond to those failures when they occur (e.g., failure of a critical piece of equipment). These are failures that cannot be completely prevented, or may not be cost-effective to completely prevent. The focus of ops_over_6_3, on the other hand, is on preventing problems from reoccurring. This includes doing root cause analysis of past problems and taking action to solve the root problem.

Activities

1. Establish the procedures for preventing reoccurrence of identified problems.
   a. Plan and provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for preventing reoccurrence of identified problems.
      2) Identifying problem types and determining acceptable timeframes for generating and implementing actions for each problem type.
      3) Determining dispute handling and escalation methods.
      4) Identifying and documenting problems (input from *org_over_7_3*, km_over_4_3, km_over_8_3, ops_exe_6_3).
      5) Analyzing and finding solutions to prevent reoccurrence of identified problems (output to org_over_16_3, km_over_4_3, ops_exe_6_3).
      6) Aligning solutions with organizational objectives (input from *org_over_1_3*).
      7) Communicating the identified problems, solutions, and dispute handling and escalation methods to relevant stakeholders.
      8) Implementing solutions and tracking them to closure.
2. Implement the procedures for preventing reoccurrence of identified problems.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the procedures.
   c. Communicate the procedures to the relevant stakeholders.
   d. Prevent reoccurrence of identified problems according to the procedures.

3. Maintain and verify the procedures for preventing reoccurrence of identified problems.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b4. Problems are identified based on verification activities, performance monitoring, and evaluation of training effectiveness.

Activity 1b5. Techniques for finding solutions to problems include root cause analysis, brainstorming, designing experiments, or testing for significance.

Solutions typically include modifying service delivery process; revising delivery plans; adjusting resources; and negotiating changes to commitments or service levels (output to ops_exe_11_2, ops_exe_15_2).

Not all problems may be cost-effective to prevent. Therefore, some solutions may not actually prevent the problem from occurring but may provide guidance on how to respond to a problem when it occurs (e.g., workarounds) (output to ops_exe_6_3).

Attributes to Measure

- Amount of remedial action
- Effectiveness of the remedial action

Proactively identify potential problems and implement actions to preclude their occurrence.

<u>Rationale</u>: Improve organizational performance and enhance value to clients in part by proactively identifying potential problems and taking appropriate preventive actions.

Identification of potential problems may be based on analyses of the organization's capability baselines, benchmarks of competitor performance, or market trends. Preventive actions may include adopting innovative technologies, processes, and tools. They may also include shifts in the strategic direction of the organization.

This Practice expands on ops_over_6_3, which covers preventing problems from reoccurring. The focus of ops_over_7_4 expands on the concept of reactively preventing known problems from reoccurring to proactively identifying potential unknown problems and preventing their occurrence in the first place. At level 3, the organization bases preventive actions on problems that have been identified. At level 4, the organization takes proactive action to prevent potential problems.

Activities

1. Plan and provide the support for identifying potential problems and preventing their occurrence.
2. Identify potential problems and prevent their occurrence.
   a. Identify problem types and determine acceptable timeframes for generating and implementing actions for each problem type.
   b. Determine dispute handling and escalation methods.
   c. Identify and document potential problems (input from *org_over_7_3*, ops_exe_6_3).
   d. Gather data on similar problems that have occurred (input from *org_over_9_4*, ppl_over_13_4, ops_over_6_3, tech_exe_2_3, km_over_4_3, km_over_8_3; output to tech_over_5_4).
   e. Analyze and find solutions to prevent occurrence of identified problems.
      1) Conduct root cause analysis to determine common causes of problems.
      2) Develop solutions to address common causes of problems.
      3) Develop business case for each solution.
      4) Prioritize solutions based on business case and organizational objectives (input from *org_over_1_3*).
      5) Select the solutions to pursue based on the priorities.
   f. Communicate the identified problems, solutions, and dispute handling and escalation methods to relevant stakeholders.
   g. Implement solutions, and track them to closure (uses activities in *org_over_6_4*.

3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2*; input from *org_over_7_3*).
4. Verify consistency of implementation of the Practice across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1. Personnel may undergo training in relevant areas such as statistical methods and causal analysis.

Activity 2c. Statistical analysis techniques can be used to review performance data taken from organizational baselines and benchmarks (uses activities in *org_over_8_4*, *org_over_9_4*). Analysis may reveal statistically significant trends in the data. These trends can be further analyzed to identify common problem areas faced by the organization.

Activity 2e. Preventive actions can include training or retraining of personnel, updating procedures, revising monitoring methods and frequency, and improving communications to increase awareness of identified root cause problems.

Activity 2e2. Not all problems may be cost-effective to prevent. Therefore, some solutions may not actually prevent the problem from occurring but may provide guidance on how to respond to a known problem when it occurs (e.g., workarounds) (output to ops_exe_6_3).

Attributes to Measure

- Effectiveness of preventive actions
- Return on investment of preventive actions

Establish and implement procedures to meet security and confidentiality requirements.

<u>Rationale</u>: *Meet or exceed stakeholder requirements for security and confidentiality to create a positive and trusting relationship and to protect the organization from vulnerabilities that may impact the organization's service capability.*

An established procedure for ensuring security and confidentiality supports consistently and adequately addressing these requirements. The organization's ability to meet the security and confidentiality requirements of a client is a key consideration for its selection. This is intended to foster a successful client relationship by increasing the level of trust. Breakdowns in security or confidentiality can damage the relationship with stakeholders and make involved parties vulnerable to legal action. Security breaches can impact the organization's ability to provide adequate service.

Activities

1. Establish the procedures to meet security and confidentiality requirements.
   a. Provide the support for establishing the security and confidentiality procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for meeting requirements for security and confidentiality.
      2) Identifying stakeholder requirements for security and confidentiality (input from org_pre_3_2 and ops_pre_1_2; output to org_exe_1_2, org_over_13_2, ops_exe_4_2, ops_exe_10_2, tech_over_2_2, tech_over_3_2).
         a) Identifying physical security requirements.
         b) Identifying data and software security requirements.
         c) Identifying data confidentiality and privacy requirements.
      3) Defining security and confidentiality solutions, based on the identified requirements.
      4) Updating security and confidentiality requirements and solutions, as appropriate.
         a) Determining impact of changes in technology (output to tech_over_1_2).
         b) Monitoring development of solutions from external sources.
         c) Monitoring current and potential threats to the organization.
      5) Aligning solutions with the organization's policies on security, confidentiality and protection of intellectual property (input from *org_over_2_2*).
      6) Determining dispute handling and escalation methods.
      7) Communicating the identified requirements, solutions, and escalation methods to relevant stakeholders.
      8) Performing security and confidentiality activities, based on the defined solutions.

2. Implement the procedures for meeting security and confidentiality requirements.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the appropriate people.
   c. Meet client requirements for security and confidentiality, according to the procedures.
3. Maintain the procedures for meeting client requirements for security and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Requirements for security, confidentiality and privacy may include procedures for access to networks, data backup, and physical access restrictions.

Activity 1b3. Some solutions may be installation of new software for authentication of users, installation of new encryption software or tools, configuration of network and communication protocols, separate hardware and operating systems, and additional or new variants of virus scanners.

Activity 1b4b. External sources for information on solutions for security and confidentiality are suppliers and vendors, government agencies, and academia. Solutions may include updates to antivirus software, product updates, etc.

Activity 1b4c. The organization should monitor for any breaches in security and confidentiality, or for high levels of activity in a particular area, to make sure that current solutions are adequate. The organization should monitor itself as well as track what is happening in the industry to identify potential threats (e.g., a new virus is affecting other organizations with a similar infrastructure).

Attributes to Measure

- Comprehensiveness of the procedure
- Effectiveness of the procedure
- Adherence to the procedure

Establish and implement procedures to protect the intellectual property of stakeholders, as appropriate.

<u>Rationale</u>: Meet or exceed stakeholder requirements for protection of their intellectual property to create a positive and trusting relationship and to protect the organization from disputes or legal action.

An established procedure for protecting intellectual property supports consistently and adequately addressing these requirements. This is intended to foster a successful relationship with stakeholders by increasing the level of trust. Inappropriate use of intellectual property can damage the relationship with stakeholders and make the organization vulnerable to legal action. Intellectual property may include proprietary software, hardware, designs, methodologies, service-related documents, data, training, trademarks, copyrights, drawings, layouts, processes, procedures, policies, and other proprietary technology or materials. Stakeholders may be the client, subcontractors or vendors, as well as employees of any of these organizations.

Activities

1. Establish the procedures for protecting the intellectual property of stakeholders.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for protecting the intellectual property of stakeholders.
      2) Identifying relevant stakeholders.
      3) Identifying existing intellectual property and its ownership for all relevant stakeholders.
         a) Determining and documenting rights, responsibilities and ownership of current intellectual property (output to org_pre_3_2, ops_pre_1_2, tech_over_3_2).
         b) Determining and documenting rights, responsibilities and ownership of future intellectual property (output to org_pre_3_2, ops_pre_1_2, tech_over_3_2).
         c) Determining disposition of current and future intellectual property during contract completion (output to org_pre_3_2, ops_pre_1_2, ops_post_1_2, tech_over_3_2).
      4) Determining and documenting dispute handling and escalation methods.
      5) Reviewing determined rights, responsibilities and ownership of intellectual property.
      6) Obtaining approval of determined rights, responsibilities and ownership of intellectual property from relevant stakeholders.
      7) Communicating the dispute handling and escalation methods and the rights, responsibilities and ownership of current and future intellectual property.
      8) Tracking use of identified intellectual property and changes in rights, responsibilities and ownership of intellectual property (input from tech_over_1_2).
      9) Obtaining approval of changes in rights, responsibilities and ownership of intellectual property from relevant stakeholders, as appropriate.

2. Implement the procedures for protecting the intellectual property of stakeholders.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Protect the intellectual property of stakeholders according to the procedures.
3. Maintain the procedures for protecting intellectual property and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Relevant stakeholders include clients, organization, subcontractors and vendors, and employees.

Activity 1b3. These rights, responsibilities and ownership may be outlined in contracts with the client, subcontractors or vendors.

Activity 1b3b. Future intellectual property is any intellectual property purchased, transferred or developed while engaged in a sourcing relationship.

Attributes to Measure

- Comprehensiveness of the procedure
- Effectiveness of the procedure
- Adherence to the procedure

Establish and implement procedures to comply with statutory and regulatory requirements.

Rationale: Comply with statutes and regulations that impact the organization's service capability to avoid client dissatisfaction and to protect the organization from disputes or legal action.

An established procedure for addressing statutory and regulatory requirements supports consistently and comprehensively complying with legal requirements. An organization needs to comply with statutes and regulations that impact its service capability in order to avoid client dissatisfaction, especially in international sourcing relationships where multiple legal systems may affect the relationship. Compliance with statutory and regulatory requirements is also necessary for ethical organizational functioning.

Statutes and regulations may be personnel-related, such as working hours, wages, time off, and the physical work environment; technology-related, such as those governing encryption, data transmission and confidentiality; market-related, such as those governing services permitted to be outsourced, restrictions on government contracts and minimum performance standards; and service-related, such as those governing service levels, and restrictions on contract value and duration.

Activities

1. Establish the procedures to comply with statutory and regulatory requirements in the contract.
   a. Provide the support for establishing the compliance procedures.
   b. Document the compliance procedures. These procedures address:
      1) Describing the purpose for complying with statutory and regulatory requirements in contract.
      2) Identifying statutes and regulations applicable for the markets, geographical regions, and specific services provided by the organization.
      3) Identifying any additional statutes and regulations applicable to meeting identified client requirements (output to org_pre_3_2, org_exe_3_2, ops_pre_1_2, ops_exe_4_2).
      4) Analyzing the impact of statutes and regulations on the organization including procedures, personnel, infrastructure, and technology.
      5) Identifying design activities necessary to bring existing procedures, policies and guidelines into compliance with the requirements (output to ops_exe_2_2, ops_exe_5_2).
      6) Identifying deployment activities necessary to comply with the requirements (output to ops_exe_4_2).
      7) Initiating identified activities (uses activities in opps_exe_5_2, ops_exe_14_2).
      8) Monitoring compliance with, and tracking changes to, applicable statutes and regulations.
      9) Updating information on statutes and regulations, and incorporating the changes into the organization's procedures and infrastructure, as appropriate.
      10) Initiating contract amendment negotiations to incorporate changes necessary to bring contract terms into compliance with applicable statutes and regulations, as appropriate (output to org_pre_3_2).

2. Implement the procedures for complying with statutory and regulatory requirements in contract.
   a. Provide the support for implementation of the compliance procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Comply with statutory and regulatory requirements, according to the procedures.
3. Maintain the procedures for complying with statutory and regulatory requirements in contract and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b3. Client-specific statutes and regulations may include regulations stipulated by the government of the client's country. In addition, the client may specifically request some of the requirements. However, it is the responsibility of the organization to ensure that all statutory and legal requirements are understood and met.

Activity 1b7. Activities the organization may take in order to comply with regulations include modifying technological infrastructure, preparing and submitting reports required by statutes, and obtaining required approvals.

Attributes to Measure

- Comprehensiveness of the procedure
- Effectiveness of the procedure
- Adherence to the procedure

Establish and implement procedures to gather a client's requirements.

<u>Rationale</u>: Gathering client requirements accurately enables the organization to design, deploy, and deliver a service that comprehensively meets client expectations.

An established procedure for gathering client requirements supports consistently and comprehensively documenting and analyzing the requirements. Effectively gathering a client's requirements enables the organization to fully understand and prepare a solution to meet client expectations and needs. The client requirements may be poorly expressed at the beginning of the engagement or they may evolve over time, so requirements elicitation and capture is an on-going process.

Gathering requirements occurs during the entire Precontract phase. This can start as early as initial discussions with client or receipt of an RFI/RFP and continue through the formal capture of requirements during contract negotiation.

Activities

1. Establish the procedures for gathering client requirements.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for gathering client requirements.
      2) Determining duration, methods, and media for gathering client requirements.
      3) Ensuring that the security, confidentiality and protection of intellectual property policies are followed while gathering requirements (input from *org_over_2_2*).
      4) Gathering and documenting client requirements, identifying client needs that are implied or unstated (input from ops_over_9_2, ops_over_10_2, ops_pre_4_2; output to org_pre_3_2, org_exe_1_2, ops_over_3_2, ops_over_8_2, ops_pre_2_2, ops_pre_3_2, ops_pre_4_2, tech_over_1_2).
      5) Obtaining clarification from the client on incomplete or unclear requirements or information.
      6) Obtaining client approval of gathered requirements, to verify the accuracy of understanding.
      7) Obtaining and documenting client acceptance of decisions related to the requirements, as appropriate.
      8) Updating client requirements, as appropriate, and track the changes made to the requirements.
2. Implement the procedures for gathering client requirements.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Gather the requirements according to the procedures.

3. Maintain the procedures for gathering client requirements and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Methods to gather client requirements include obtaining all documents related to service (e.g., client or end-user manuals, specifications, samples), conducting interviews of client personnel and end-users, administering standard questionnaires, and collecting artifacts.

Activity 1b4. Client requirements include services to be delivered, service characteristics, performance criteria, service levels, relationships with other service providers, disposition of assets (personnel, technology, licenses, etc.), and facilities. These requirements may be quantitative or qualitative in nature.

Where applicable, the requirements should also state the ‘context’ or the ‘user environment’ in which the service will be deployed.

Other inputs required from the client will include delivery milestones; resources required, including specific skills needed to deliver the service; reports, including the format, media, and frequency; media of service delivery, such as tapes, floppies, compact discs; method of delivery, whether by courier or via Internet; returnable and non-returnable client supplied material; and, any specific cultural issues to be addressed.

Gathering requirements and updating negotiation topics are iterative processes. Identification of a new requirement may result in an update of topics to negotiate and updating negotiation topics may lead to a change in requirements.

Activity 2a. Training can include interviewing techniques and recording client requirements.

Attributes to Measure

- Comprehensiveness of the requirements
- Completeness of the requirements

Prior to committing to the prospective client, review requirements and ensure that the organization can meet them.

<u>Rationale</u>: Understand client requirements and the organization's capabilities to determine whether the organization can satisfy client requirements.

Before making commitments to clients, the organization should review the feasibility of meeting those requirements with present or planned capabilities while also achieving its own business objectives. This drives organizations to proactively understand, plan, and manage client expectations and work towards acquiring needed capabilities.

Activities

1. Provide the support for reviewing prospective client requirements and ensuring that the organization can meet them.
2. Prior to committing to the client, review prospective client requirements and ensure that the organization can meet them.
   a. Identify and document the client requirements that need a response (input from ops_pre_1_2).
   b. Solicit input from personnel who are involved in executing the contract on the ability to meet requirements.
   c. Conduct a feasibility analysis of the ability to meet requirements before responding to any client requirements.
   d. Identify inabilities to meet client requirements and implement appropriate actions and track them to closure.
   e. Communicate the results of the analysis to the relevant stakeholders.
   f. Incorporate the results of the analysis in responding to client requirements or requests for proposals (output to ops_pre_3_2).
3. Periodically review the effectiveness and relevance of reviewing prospective client requirements, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1. Information required for reviewing requirements includes technology infrastructure requirements, delivery milestones, estimation of resources, service levels, and service specifications. Other client information required for review includes policies and procedures to follow, status reporting, security and confidentiality requirements, cultural attributes, and definitions and documentation of roles and responsibilities.

Activity 2a. Client requirements that need a response can be in the form of a Request For Proposal (RFP), a Request For Information (RFI), or a Request For Quotations (RFQ).

Activity 2c. Use organizational data on performance capabilities for the feasibility analysis. This includes consideration of current skills and available personnel and facilities, as well as consideration of resource consumption on similar contracts (input from *ppl_over_4_2*, *ppl_over_7_2,* km_exe_1_2).

Ensure that the feasibility analysis covers client requirements including service expectations, technology infrastructure, service delivery schedule, and effort.

Activity 2d. An appropriate action may be to tell the client that you cannot meet its requirements, especially if meeting the requirements is not aligned with the organization's business objectives.

Attributes to Measure

- Effectiveness of the viability review

Establish and implement procedures to respond to the requirements of a prospective client.

Rationale: Provide comprehensive and timely responses to a client's inquiries, requests, or requirements in an orderly manner.

An established procedure for responding to the requirements of potential clients supports consistent and responsive interactions. A disciplined interface between the organization and the client helps ensure consistency in the content of interactions. Documenting and communicating responses from the client about requirements should enable organizations to clarify concerns and provide responses of acceptable quality.

Activities

1. Establish the procedures for responding to the requirements of a prospective client.
   a. Provide the support for establishing the requirements response procedures.
   b. Document the requirements response procedures. These procedures address:
      1) Describing the purpose for responding to the requirements of a prospective client, identify expected results.
      2) Identifying and documenting the client requirements that need a response (uses activities in ops_pre_1_2).
      3) Obtaining clarification from the client, as appropriate.
      4) Preparing a documented response to each identified client requirement based on the feasibility analysis (input from ops_pre_2_2).
      5) Communicating the response to the client.
      6) Providing clarifications to the client, as appropriate.
      7) Monitoring the progress of responses to client requirements.
2. Implement the procedures for responding to the requirements of a prospective client.
   a. Provide the support for implementation of the requirements response procedures.
   b. Communicate the procedures to the appropriate people.
   c. Respond to the requirements of a prospective client, according to the procedures.
3. Maintain the procedures for responding to the requirements of a prospective client and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b4. An organization’s response may be in the form of a proposal. The proposal may include sections on the organization’s track record, management, client referrals, the service to be provided, the pricing, the service levels, and the responsibilities of the client and the organization.

Activity 1b7. Monitoring the response includes tracking activities, checking the quality of the response, tracking effort in terms of cost and time, monitoring client feedback and taking necessary follow-up action.

Activity 2a. Personnel that can be involved in responding to requirements include personnel from service design, deployment, and delivery, commercial, legal and human resources.

Attributes to Measure

- Effectiveness of response
- Comprehensiveness of the response

Prior to and during negotiation, identify topics requiring client agreement.

<u>Rationale</u>: Achieve a common understanding between the organization and the client with respect to key negotiation topics.

Identifying key topics enables the organization to structure the negotiation process to comprehensively address any concerns that require clarification and agreement by both the client and the organization. It also reflects a degree of preparedness that enhances a client's trust in the capability of the organization and should aid in developing positive relationships.

Activities

1. Provide the support for identifying topics.
2. Identify topics requiring client agreement.
   a. Identify and document an initial set of topics to negotiate based on existing organizational guidelines, policies and procedures (input from org_pre_2_2) and information known about the client requirements (input from ops_pre_1_2).
   b. Prior to negotiation, communicate the initial set of topics to the client.
   c. Ensure that the security, confidentiality and protection of intellectual property policies are followed while negotiating with clients (input from *org_over_2_2*).
   d. During negotiations with the client, update the topics requiring client agreement (input from ops_pre_1_2; output to org_pre_3_2).
   e. Communicate the updates to the relevant stakeholders (output to ops_pre_1_2).
   f. During negotiation, monitor the status of identified topics and track them to closure.
3. Periodically review the effectiveness and relevance of identifying topics, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. Topics to be negotiated may include scope of service, performance standards, pricing, factors for designing and deploying the service, management and control issues, billing and payment terms, termination provisions, security, confidentiality, warranties and indemnities, limitation of liability, use of subcontractors, licensing, contract amendment mechanisms, communication channels, technology modification or upgrading, and issues during transition of service. Initial identification of topics may come from previous contact with the client, RFIs, market information gathered about the client, etc.

Activity 2d. Gathering requirements and updating topics is an iterative process. Identification of a new requirement may result in an update of topics to negotiate and updating negotiation topics may lead to a change in requirements.

Attributes to Measure

- Effectiveness of key issue identification
- Status of key issues

Define the roles and responsibilities of the organization and the client with respect to the proposed contract.

Rationale: Achieve a common understanding between the organization and client with respect to roles and responsibilities of each party.

Clearly defined roles and associated responsibilities for both the client and the organization are critical for consistently and successfully executing the contract and delivering the service. This also aids during dispute resolution by tracking service performance issues where nonfulfillment of defined roles and responsibilities occur.

Activities

1. Provide the support for defining the roles and responsibilities of the organization and the client.
2. Define the roles and responsibilities of the organization and the client.
    a. Identify and document the roles and responsibilities of the organization, the client, and the relevant stakeholders.
    b. Define and document remedial actions to be taken when identified responsibilities are not met.
    c. Determine dispute handling and escalation methods and identify contact personnel for the relevant stakeholders who will be responsible for escalation when identified responsibilities are not met.
    d. Communicate the defined responsibilities and escalation methods to the relevant stakeholders (output to org_pre_3_2).
    e. Obtain acceptance from relevant stakeholders on the identified roles and responsibilities.
3. Periodically review the effectiveness and relevance of defined roles and responsibilities, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. An organization identifies roles and responsibilities based on both the activities to be performed in the sourcing relationship, and on input from the client. Stakeholders may include subcontractors and vendors if they have been selected prior to signing the contract.

The responsibilities of the client may include providing the inputs for requirements as and when required; studying and approving service designs; supplying the inputs required for performing the service including data, documents, and information at designated intervals; providing feedback and making payments at predefined intervals; establishing change control mechanisms; answering queries within a specified time period; identifying points of contacts for various activities such as general clarifications, technical queries, and queries relating to account or billing or payment; designating personnel authorized to monitor the progress of the contract, to provide feedback, and to answer queries; and approval of milestones met.

Responsibilities of the organization may include identifying contact personnel, sending service design and service delivery plans for approvals, meeting milestones, achieving service levels, maintaining continuity of service in case of contract completion or termination, and training of clients and end-users.

Attributes to Measure

- Awareness of contractual roles
- Adherence to contractual roles
- Effectiveness of contractual roles

Establish and implement procedures to design and deploy the service to meet client requirements.

Rationale: Establish a service delivery framework that enables the organization to effectively meet client requirements according to agreed upon service levels.

An established procedure for design and deployment supports consistently and predictably designing high-quality services, deploying services, and effectively managing design and deployment activities. The objective is to provide designed services that meet client requirements and are deployed within agreed upon timeframes.

Use existing processes and activities from planning (input from ops_exe_2_2), design (input from ops_exe_5_2) and deployment (input from ops_exe_14_2) as inputs to the development of this Practice. Once the Practice, and its related procedures, is established, the Practice will then be used to plan (output to ops_exe_2_2), design (output to ops_exe_5_2) and deploy (output to ops_exe_14_2) service for all client contracts.

Activities

1. Establish the procedures for designing and deploying services to meet clients' requirements.
   a. Plan and provide the support for establishing the service design and deployment procedures.
   b. Document the planning procedures (output to ops_exe_2_2). These procedures address:
      1) Describing the purpose for developing a plan to design and deploy the service.
      2) Estimating design and deployment effort.
      3) Planning the design of the service.
      4) Planning the deployment of the service.
      5) Reviewing the plan.
      6) Obtaining approval of the plan.
      7) Communicating the plan to relevant stakeholders.
   c. Document the design procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for designing the service according to clients' requirements.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Determining opportunities to reuse work products and service components (input from km_over_5_3).
      4) Identifying cultural attributes that impact service (uses activities in org_exe_2_3).

5) Identifying and designing the work environment (uses activities in *ppl_over_7_2*).

6) Designing the personnel structure used to deliver the service.

7) Designing the technology infrastructure.

8) Design the processes, policies and procedures used to deliver the service.

9) Coordinating the design activities, ensuring that service design is integrated and based on the service specification (input from ops_exe_4_2).

10) Reviewing and verifying the design (uses activities in ops_exe_13_3).

11) Communicating the design to relevant stakeholders.

d. Document the deployment procedures (output to ops_exe_14_2). These procedures address:

1) Describing the purpose for deploying the service according to the design.

2) Deploying the physical environment.

3) Deploying the personnel structure.

4) Deploying the technology infrastructure.

5) Deploying the processes, policies and procedures.

6) Coordinating the deployment activities, ensuring that service delivery is integrated and based on the design.

7) Reviewing the deployment activities against the expected results, taking action as appropriate.

2. Implement the procedures for designing and deploying services to meet clients' requirements.

a. Create a plan for implementing the procedures.

b. Provide the support for implementation of the service design and deployment procedures.

c. Communicate the procedures to the appropriate personnel.

d. Design and deploy services to meet clients' requirements, according to the procedures.

3. Maintain the procedures for designing and deploying services to meet clients' requirements.

a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).

b. Verify consistency of implementation of the procedures across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Attributes to Measure

- Effectiveness of the procedures
- Comprehensiveness of the procedures
- Adherence to the procedures

Develop a plan to design and deploy the service.

Rationale: Enable the organization to deliver service that meets client commitments, in part, by effectively managing service design and deployment activities.

Planning is critical for setting expectations for both the client and the organization. Plans also form the basis for monitoring and reviewing service design and deployment activities.

Activities

1. Provide the support for developing a plan to design and deploy the service.
2. Estimate design and deployment effort (output to km_exe_1_2).
   a. Identify client requirements and contract commitments that will impact design and deployment (input from org_exe_1_2).
   b. Analyze requirements to identify design and deployment activities.
   c. Align activities with engagement objectives (input from *ops_over_1_2*).
   d. Estimate the resources required for designing and deploying the service, including the effort and timeframe required for each activity (input from km_exe_1_2).
   e. Determine milestones and planned progress reviews (output to ops_exe_3_2).
   f. Determine attributes to be monitored during design and deployment (output to ops_exe_3_2).
   g. Determine monitoring methods and duration of monitoring for design and deployment activities (output to ops_exe_3_2).
3. Plan the design of the service (input from ops_over_10_2; output to ops_exe_5_2, ops_exe_3_2).
   a. Develop methods for handling changes during service design.
   b. Create a schedule of design tasks.
   c. Determine personnel and training required to design the service (uses activities in ppl_exe_1_2).
   d. Document personnel assignments in the plan (input from *ppl_over_4_2*).
   e. Determine additional resources required to design the service (uses activities in *org_over_4_2*, *ppl_over_7_2* and *km_over_2_2*).

4. Plan the deployment of the service (input from ops_over_10_2; output to ops_exe_14_2 and ops_exe_3_2).
   a. Develop a transition plan and schedule for the physical environment (input from *ppl_over_7_2*).
   b. Develop a transition plan and schedule for the technological infrastructure (input from tech_over_1_2 and tech_exe_1_2).
   c. Develop a transition plan and schedule for the personnel structure (input from *ppl_over_4_2* and ppl_exe_2_2).
   d. Develop a transition plan and schedule for processes, policies and procedures.
   e. Develop a list of expected results from deployment activities.
5. Review the plan.
   a. Review the plan for correctness, clarity, and adequacy.
   b. Obtain approval of the plan.
   c. Communicate the plan to relevant stakeholders.
   d. Periodically review and revise the plan, as appropriate (uses activities in *ops_over_2_2; input* from ops_exe_3_2).

Supplemental Information

Activity 2a. This includes project deliverables, milestones and client-supplied resources.

Depending on the timing of the creation of the design and deployment plan and the service specification, requirements may also come from the service specification (input from ops_exe_4_2).

Activity 2d. Resources include monetary resources, personnel and training, and technology and facilities infrastructure. Estimates of resources are based on details of similar projects executed by the organization, availability of personnel and skills, lead times required for procurement, interdependencies within activities and resources, risks associated with resources, and capacity of resources including facilities and technology.

Activity 2f. Attributes of service design and deployment activities tracked include resources used, milestones achieved, and quality of work products and service components.

Activity 4e. This checklist will assist in confirming the success of deployment activities. It should be used to help verify that:

- Required communications are in place (e.g., procedures, contact lists, escalation lists)
- Physical environment is adequate (e.g., building access has been provided to all personnel, space assignments have been made, etc.)
- Technology infrastructure is ready for service delivery (e.g., physical network, wiring, hubs, routers, pbx, workstations, servers, printers, systems software, etc.)
- Personnel are prepared to deliver service (e.g., training has been conducted, a compensation and reward structure is in place, roles and responsibilities have been communicated, etc.)
- Procedures, policies, and guidelines are in place and have been communicated to personnel.

Activity 5a. Involve personnel who will implement the plan when conducting the review.

Activity 5b. Approval is made by designated personnel and by the client on key issues, as required.

Activity 5d. Project plans are updated due to changes in client requirements, contract amendments, service modifications, and changes in resource availability (input from org_pre_3_2, ops_pre_1_2, ops_exe_11_2).

Attributes to Measure

- Design status relative to the plan
- Effectiveness of design plans

Track service design and deployment activities against the plan at designated intervals.

<u>Rationale</u>: *Manage expectations by taking corrective action when deviations from the plan occur to help ensure that the service is designed and deployed as agreed upon with the client.*

Tracking against the plan provides visibility to the organization on the progress of service design and deployment. When problems occur timely interventions help ensure that expectations for service design and deployment are appropriately managed.

Activities

1. Provide the support for tracking service design and deployment activities against the plan.
2. Track service design and deployment activities against the plan.
   a. Define and establish channels for communicating the status of the service design and deployment activities.
   b. Determine dispute handling and escalation methods.
   c. Track the service design and deployment activities against the plan using the defined monitoring methods (input from ops_exe_2_2, ops_exe_5_2, ops_exe_14_2; output to km_exe_1_2).
   d. Identify and track to closure actions to be taken when actual performance does not meet required outcomes (output to ops_exe_2_2).
   e. Communicate the progress of the service design and deployment activities to the relevant stakeholders.
3. Periodically review the effectiveness and relevance of the tracking, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2c. Tracking mechanisms include periodic status reporting and scheduled meetings.

Attributes to Measure

- Design status relative to the plan
- Currency of tracking information

Develop the service specification.

<u>Rationale</u>: Enable the organization to meet client requirements and expectations, in part, by building an accurate and comprehensive service specification.

An accurate and comprehensive service specification enables an organization to meet client requirements effectively, since services are designed, deployed, and delivered on the basis of the service specification. As the service evolves over time, the service specification captures the expectations of the client and the organization.

Activities

1. Provide the support for developing the service specification.
2. Develop the service specification. This addresses:
   a. Defining and documenting the services to be provided, based on the client requirements (input from org_exe_1_2).
   b. Determining service levels for the defined services.
   c. Ensuring that the service specification addresses applicable statutes and regulations (input from ops_over_10_2) and security and confidentiality requirements (input from org_pre_3_2, ops_over_8_2).
   d. Reviewing the service specification for clarity, correctness, and adequacy.
   e. Obtaining feedback from relevant stakeholders.
   f. Incorporating changes and updating the service specification, as appropriate (output to ops_exe_2_2).
   g. Obtaining client sign off for the service specification.
   h. Communicating the service specification to the relevant stakeholders (output to ops_exe_5_2, tech_over_1_2).
3. Periodically reviewing the effectiveness and relevance of the service specification developed, and taking action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. Definitions of services include availability of each service, service requests, priority of services, functional and performance requirements, business and technical goals and objectives, clear representation of the needs of clients and end-users and client-imposed constraints on standards, security, and confidentiality policy.

Activity 2b. Service levels are determined based on an analysis of the current baselines of services offered, a review of engagement objectives, a review of customer expectations, and an analysis of the availability of each service. Analysis of current baselines is typically done through a baseline assessment or an evaluation of historical performance.

Activity 2f. Changes may require modification to services (output to ops_exe_11_2).

Attributes to Measure

- Comprehensiveness of the service specification
- Clarity of the service specification

Design the service based on the service specification.

<u>Rationale</u>: Enable the organization to meet client requirements and expectations, in part, by basing the designed service on the previously agreed upon service specification.

The service specification consolidates all service delivery requirements, including those explicitly stated by the client and those perceived by the organization as necessary for the project. While it is expected that the service (and specification) will evolve over the life of the engagement, it is essential to design the service based on the service specification to meet client expectations.

Activities

1. Provide the support for designing the service.
2. Design the service based on the service specification (input from ops_exe_2_2, ops_exe_4_2; output to ops_exe_5_2, ops_exe_14_2, ops_exe_15_2).
    a. Identify and design the work environment (uses activities in *ppl_over_7_2*).
    b. Design the personnel structure used to deliver the service.
        1) Determine personnel required to deliver the service (uses activities in *ppl_over_4_2*).
        2) Determine training required to deliver the service (uses activities in *ppl_over_6_2*).
        3) Determine teams required to deliver the service.
    c. Design the technology infrastructure.
        1) Identify technology required to deliver the service (input from tech_over_1_2).
        2) Identify sources of the required technology (input from tech_over_1_2).
    d. Design the processes, policies and procedures used to deliver the service.
        1) Identify the service activities to be performed and the resources to be provided.
        2) Identify applicable existing processes, policies and procedures and guidelines, tailoring to the service specification as appropriate (input from km_over_2_2).
        3) Determine need for new processes, policies, procedures and guidelines (input from ops_over_10_2).
        4) Define process specifications for the delivery of service (input from ops_exe_7_2, ops_exe_8_2, ops_exe_10_2, ops_exe_9_2, ops_exe_11_2, ops_exe_12_2).
        5) Define quality specifications to monitor the quality of the service delivered (output to ops_exe_9_2).

e. Coordinate the design activities, ensuring that service design is integrated and based on the service specification.

f. Review the design (input from ops_exe_7_2).

   1) Review the design for correctness, clarity, and adequacy.

   2) Obtain approval of the design.

   3) Communicate the design to relevant stakeholders.

   4) Periodically review the effectiveness and relevance of the design and revise, as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2c2. Technology may be transferred from the client, or it may be existing and/or provided by subcontractors or vendors.

Activity 2d2. Some existing policies and procedures cover management of security, risk, and disasters, interacting with clients and subcontractors or vendors, and managing technology (input from *org_over_2_2*, *org_over_3_2*, org_over_13_2, ops_over_3_2, ops_over_5_2, ops_over_8_2, tech_over_1_2, tech_over_2_2, tech_over_3_2).

Activity 2d4. The process specification may be multiple documents containing the necessary procedures, policies and guidelines. Ensure that the process specification includes:

- Methods for communicating with client and end-users. Methods of communication with clients and end-users include predefined contact personnel, methods of communication, and frequency, and media used. Media used can include high-speed data links, e-mails, FTP site, telephone, and fax. Points of contact and formats developed will include defined contact points, service requests, status reports, exception reports, and client escalation.
- Defined steps for receipt and delivery of service requested. Steps identified for receipt of service requested include acknowledgement, review for comprehensiveness and clarity, and registering the request. The steps identified for receipt and delivery of service are defined in the form of “scripts” for various scenarios, work instructions, and standard operating procedures.
- Resources required to deliver service. Resources required for service delivery include personnel, skills, tools and techniques.
- A clear description of the service delivery characteristics that directly affect service performance. Service delivery characteristics impacting service performance include service accessibility and availability, service safety, security, reliability, service delay, duration, delivery times, service capacity, size of service delivery facilities, and quantity and types of service-related supplies and materials.
- A standard of acceptability for each service delivery characteristic.
- Methods for coordinating with the subcontractors and vendors who are required for the delivery of service.

Activity 2d5. Service Level targets are often associated with the volume of service delivered, the quality of service delivered, and client and end-user satisfaction. The quality specification can be multiple documents containing quality standards and service levels.

Ensure that the quality specification includes:

- Service characteristics that impact the quality of the service delivered. Characteristics that affect quality of service include achievement of service levels, response time, and attitude of personnel interacting with client and end-user.
- Measures of service characteristics required for controlling the quality of service delivered. Characteristics whose measurement and control will ensure quality of service delivered are identified from an analysis of the key steps in service delivery that have a significant influence on client and end-user satisfaction.
- Schedules, methods, personnel, and tools for monitoring the identified characteristics.
- Methods for capturing the results of monitoring and identification of personnel responsible for analysis of results.
- Actions to be taken based on the analysis of the results of monitoring the service quality.

Attributes to Measure

- Design status relative to the plan
- Effectiveness of design plans

Establish and implement procedures to respond to potential failures in the delivery of service.

<u>Rationale</u>: Prepare the organization to quickly respond to, and recover from, disruptions in service delivery in order to continue to meet client requirements even when failures occur.

An established procedure for responding to failures supports consistently responding to, and recovering from, such failures. Problems occur that may cause service delivery failures; the organization's preparedness to respond to, and recover from, disruptions in service delivery, is an indication of its capability to meet commitments. Effectively responding to failures in service delivery improves client and end-user satisfaction.

This Practice is related to ops_over_6_3, which covers preventing problems from reoccurring. The focus of ops_exe_6_3 is on anticipating potential failures in service delivery and being prepared with a set of actions to respond to those failures when they occur (e.g., failure of a critical piece of equipment). These are failures that cannot be completely prevented, or may not be cost-effective to completely prevent. The focus of ops_over_6_3, on the other hand, is on preventing problems from reoccurring. This includes doing root cause analysis of past problems and taking action to solve the root problem.

Activities

1. Establish the procedures for responding to potential failures in the delivery of service.
   a. Provide the support for establishing the procedures.
   b. Document the procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for responding to potential failures in the delivery of service.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Gathering input from all relevant stakeholders in order to identify potential failures (input from ops_over_6_3).
      4) Classifying potential failures based on an analysis of potential impacts.
      5) Ensuring identified failures incorporate potential failures identified through risk management (input from org_over_14_3).
      6) Determining methods to reduce effects of potential failures.
      7) Determining dispute handling and escalation methods.
      8) Creating a plan for the organization's response to potential failures, including activities needed to recover resources and coordinate and communicate with all stakeholders in the event of a failure (output to ops_post_2_3).
      9) Ensuring that the failure response procedures follow the policies and requirements for security, confidentiality, and protection of intellectual property (input from *org_over_2_2*, ops_over_8_2, ops_over_9_2).

10) Identifying and documenting any failure response actions taken, and tracking them to closure (output to org_over_16_3, km_over_4_3, ops_over_6_3).

11) Testing the effectiveness of the failure response plans at regular intervals, taking corrective action as appropriate.

2. Implement the procedures for responding to potential failures in the delivery of service.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the procedures.
   c. Communicate the procedures to the relevant stakeholders.
   d. Respond to potential failures in the delivery of service, according to the procedures.
3. Maintain the procedures for responding to potential failures in the delivery of service.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b. Failures in service delivery are different from disasters preventing service delivery primarily in scale. While both disasters and failures prevent the organization from delivering service and are event-driven, disasters typically cause a complete breakdown in operations. Failures are smaller in scale and are tied to an inability to meet a particular service commitment.

Activity 1b3. Types of failures that may impact delivery of service include hardware failure, brief power outages, absence of personnel, and break in supply chain.

Activity 1b8. A typical action to take is to provide alternate services for the duration of the failure.

Attributes to Measure

- Effectiveness of the failure response procedures
- Pervasiveness of response procedure understanding among expected users

Establish and implement procedures to obtain feedback from the client on the designed service, and to incorporate necessary changes.

Rationale: Verify client agreement of the service design to identify potential problems and take corrective actions before the service is deployed.

An established procedure for joint reviews supports optimum use of organizational resources and prevents the occurrence of problems in service performance. Client feedback can be used to efficiently identify problems in the service design and take corrective actions before the service is deployed. Involvement of the client, as well as the prevention of potential problems, improves client and end-user satisfaction.

Activities

1. Establish the procedures for obtaining and implementing client feedback on service design.
   a. Provide the support for establishing the client feedback procedures.
   b. Document the client feedback procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for obtaining client feedback on service design, and identifying expected results.
      2) Identifying contacts in client organization responsible for providing feedback on service design.
      3) Providing the client with the required service design information on which feedback is required.
      4) Establishing and maintaining ways for the client to access service design information and provide feedback.
      5) Collecting client feedback.
      6) Analyzing the feedback and identifying any changes required to the service design (output to ops_exe_5_2).
      7) Identifying the actions required to implement the changes identified.
      8) Documenting the changes and the corresponding actions. Tracking the actions to closure.

2. Implement the procedures for obtaining and incorporating client feedback on service design.
   a. Provide the support for implementation of the client feedback procedures.
   b. Communicate the procedures to the appropriate personnel.
   c. Obtain and implement client feedback on service design, according to the procedures.
3. Maintain the procedures for obtaining and implementing client feedback on service design and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Designated client contacts could include individuals or teams responsible for coordination, reporting and escalation of problems and issues.

Activity 1b3. The information provided to the client is based on inputs from the service design team and representatives of the client. Feedback from clients may be obtained on suitability of the designed service to requirements, accessibility of the key service provider interfaces, cultural fit, efficiency, reliability, and ability to meet service levels.

Activity 1b4. The client could review design information and provide feedback during face-to-face meetings, or by e-mail and electronic file transfer as part of a helpdesk system that supports problem tracking and reporting.

Activity 1b7. Actions arising from client feedback include changes required to service specifications, planned infrastructure, process and quality specifications, and retraining of personnel.

Activity 2a. Personnel responsible for obtaining client feedback include project managers and client interaction personnel.

Attributes to Measure

- Comprehensiveness of design feedback
- Timeliness of design feedback
- Status of design feedback processing

Establish and implement procedures to verify and account for resources transferred from the client to the organization.

Rationale: Track and manage information about resources transferred to facilitate smooth handover of responsibilities before service delivery begins.

An established procedure for managing client-provided resources supports consistently addressing security, confidentiality, and intellectual property issues. Effective tracking of resources transferred from the client enables the organization to ensure all required resources have been transferred, facilitates handling disputes regarding disposition of resources, and facilitates smooth handover of services at the close of the contract.

Activities

1. Establish the procedures for verifying and accounting for the resources transferred from the client.
   a. Provide the support for establishing the resource verification accounting procedures.
   b. Document the resource verification and accounting procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for verifying and accounting for the resources transferred from the client, and identifying expected results.
      2) Identifying resources being transferred from the client to the organization (input from org_pre_3_2, ppl_exe_2_2, tech_exe_1_2).
      3) Identifying communication channels, including contact personnel at the client and at the service provider.
      4) Determine dispute handling and escalation methods.
      5) Defining the criteria for acceptance of resources transferred from the client.
      6) Verifying the resources before acceptance, according to the defined criteria.
      7) Maintaining and updating records of all resources received from the client (output to ops_post_1_2, tech_over_3_2).
2. Implement the procedures for verifying and accounting the resources transferred from the client.
   a. Provide the support for implementation of the resource accounting procedures.
   b. Communicate the procedures to the relevant personnel.
   c. Verify and account for the resources transferred from the client, according to the procedures.

3. Maintain the procedures for verifying and accounting for the resources transferred from the client and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b3. Contact personnel include personnel responsible for coordination, reporting, and escalation.

Activity 1b5. Organizational criteria for accepting client resources include suitability of the resources to the identified requirements, contractual requirements, quantity received, and the quality of resources.

Activity 1b7. Records maintained for resources include details on date of receipt, condition of the resources, any modifications done to the received resources, client approvals on these modifications, and performance of these resources.

Attributes to Measure

- Effectiveness of resource transfer procedures
- Comprehensiveness of resource transfer procedures
- Status of resource transfer

Establish and implement procedures to monitor service quality based on the quality specification, and take corrective action as appropriate.

<u>Rationale</u>: Manage quality of service delivery by taking corrective action when deviations from agreed upon service levels occur.

An established procedure supports consistently and predictably meeting quality objectives. The quality specification is a document, created as part of service design (see ops_exe_5_2), which describes the quality attributes to be monitored and the service levels that have been agreed to for each of those attributes. When deviations from agreed upon service levels occur, the organization should take appropriate and timely corrective action.

Activities

1. Establish the procedures for monitoring service quality based on the quality specification.
   a. Provide the support for establishing the procedures.
   b. Document the procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for monitoring service quality based on the quality specification.
      2) Defining and documenting the criteria for acceptability of the service (input from ops_exe_5_2).
      3) Defining the frequency of monitoring.
      4) Determining dispute handling and escalation methods.
      5) Gathering and analyzing data on service quality.
      6) Documenting the results of the monitoring.
      7) Identifying actions to be taken when the delivered service does not meet the defined criteria, and taking action as appropriate.
      8) Communicating results of the monitoring and actions taken.
2. Implement the procedures for monitoring service quality based on the quality specification.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Monitor service quality according to the procedures.

3. Maintain the procedures for monitoring service quality based on the quality specification and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1a. The resources required for carrying out monitoring include tools for tracking and reporting on the level of service, and personnel checking the quality and the personnel in supervisory positions for quality checking and quality assurance.

Activity 1b7. Actions to be taken include reporting to the client; defining an action plan, which specifies the personnel responsible, timeframes, and resources required; and verifying implementation of planned actions. Actions to be taken may be specified in the contract, service specification, or quality specification (input from org_pre_3_2, ops_exe_4_2, ops_exe_5_2).

Attributes to Measure

- Service Quality
- Currency of service quality measures
- Consistency of quality monitoring activities
- Effectiveness of quality monitoring activities

Establish and implement procedures to apply version control and change control to the service components.

<u>Rationale</u>: Maintain the integrity of the service and its components, in part, by applying version control and change control.

An established procedure for version control and change control supports consistently identifying service components, controlling changes to those components, and maintaining the integrity of the components used for continuing the work and/or providing the service. Version control is an informal level of configuration management, in which a work product is changed in a controlled manner and the version of the work product in use at a given time (past or present) is known. Change control is an element of configuration management, consisting of the evaluation, coordination, approval or disapproval, and implementation of changes to work products.

Service components are any items that are used in the delivery of service. Components may include specific user interfaces, customized software, data storage mechanisms, work instructions, process specifications, quality specifications, and security mechanisms. These components can change during the delivery of service.

Activities

1. Establish the procedures for applying version control and change control to the service components.
   a. Provide the support for establishing the version control and change control procedures.
   b. Document the version control and change control procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for applying version control and change control to the service components.
      2) Developing version and change control methods and tools.
      3) Identifying the service components that need to be controlled.
      4) Making changes to the service components.
      5) Reviewing the changes made to service components against expected results, taking action as appropriate (output to ops_exe_15_2).
      6) Tracking and controlling changes made to service components.
      7) Ensuring that the control procedures comply with the policies and requirements for security, confidentiality, and protection of intellectual property (input from *org_over_2_2*, ops_over_8_2, ops_over_9_2).
2. Implement the procedures for version control and change control.
   a. Provide the support for implementation of the version control and change control procedures.
   b. Communicate the procedures to the relevant personnel.
   c. Apply version control and change control to the service components, according to the procedures.

3. Maintain the procedures for applying version control and change control to the service components and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Methods and tools include naming conventions, change requests, approval procedures and repositories. Service components are often controlled through the use of a repository. A repository can be in the form of hardcopy library or database.

Activity 1b6. Track and control relevant technology service components (uses activities in tech_over_3_2).

Attributes to Measure

- Effectiveness of the tracking and controlling procedures
- Adherence to the tracking and controlling procedures
- Change activity and status

Establish and implement procedures to make modifications to services.

<u>Rationale</u>: Modify services in a controlled manner, thereby minimizing impact on the delivery of service.

An established procedure for modifying services enables the organization to make modifications to the services in a controlled manner, thereby minimizing impact on the delivery of service. Formal control of changes to services helps ensure that both the organization and the client, and any other impacted stakeholders, have a common agreement as to the services and service levels that are to be provided. This reduces a potential source of dispute and improves the satisfaction of clients and end-users by helping to ensure that provided services match current needs.

Activities

1. Establish the procedures for making modifications to services.
   a. Provide the support for establishing the service modification procedures.
   b. Document the service modification procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for making modifications to services.
      2) Formulating guidelines to control modifications to the service design or delivery.
      3) Analyzing the impact of proposed modifications on the service being delivered, before making any changes (output to org_pre_3_2).
      4) Obtaining client's approval for the proposed modifications.
      5) Modifying the services offered.
      6) Maintaining documentation for all modifications made to the service.
      7) Tracking and controlling the modifications made.
      8) Communicating the modification made to the relevant stakeholders.
2. Implement the procedures for making modifications to services.
   a. Provide the support for implementation of the service modification procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Modify services, according to the procedures.
3. Maintain the procedures for making modifications to services and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b5. Examples of modifications to services include changes to service levels, contract terms and conditions, and scope of work.

Activity 1b6. Modifications may require an update of the service specification (output to ops_exe_4_2).

Attributes to Measure

- Adherence to the service modification procedures
- Pervasiveness of awareness of service modifications among expected users
- Service modification activity and status

Establish and implement procedures to train clients and end-users, as appropriate.

Rationale: Support the ability of clients and end-users to effectively use the delivered service, in part, by providing any necessary client and end-user training.

An established procedure for client and end-user training supports the effective deployment and use of the delivered service. This improves the level of client satisfaction by enabling clients and end-users to more effectively take advantage of delivered service.

Activities

1. Establish the procedures for training clients and end-users.
   a. Provide the support for establishing the training procedures.
   b. Document the training procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for training clients and end-users.
      2) Identifying the type, content, and format of training to be delivered to clients and end-users.
      3) Obtaining acceptance from clients and end-users about the identified training.
      4) Communicating the availability and conditions of training to clients and end-users.
      5) Providing training to clients and end-users.
      6) Maintaining records of training provided, trainers and trainees.
      7) Tracking revisions made to the training programs.
      8) Obtaining feedback from clients and end-users on the training provided.
      9) Reviewing and improving the training program based on the feedback from clients and end-users.
2. Implement the procedures for training clients and end-users.
   a. Provide the support for implementation of the training procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Train clients and end-users, according to the procedures.

3. Maintain the procedures for training clients and end-users and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Training is based on commitments made to the client as per the contract. Training may be classroom-based; self-taught with supporting course materials, including electronic materials; or web-based.

Activity 2a. Resources needed for providing training may include audio/visual equipment, classroom facilities, training material, video-conferencing system, and broadband connectivity. The training can be delivered at the premises of the client or the organization. Trainees at remote locations can participate in the training using a video-conferencing system.

Attributes to Measure

- Comprehensiveness of provided training
- Effectiveness of provided training
- Client perceived quality of the provided training
- Status of training activities

Establish and implement procedures to review and verify the service design.

Rationale: Identify potential problems and take corrective action before the service is deployed by conducting design reviews and verifying the service design with respect to client requirements.

An established procedure for reviewing and verifying the service design supports the early removal of defects. This prevents problems during service deployment and should enable an organization to satisfy client requirements and meet service level commitments.

This Practice is a more in-depth and rigorous review of the design than ops_exe_7_2. It provides both an internal review and external verification of the design. Design reviews typically encompass review and audits by management or designated personnel within the service delivery organization. Verification expands on this internal review, by involving client personnel to ensure the design meets client requirements. Verification of the service design against client requirements enables the organization to objectively confirm its ability to satisfy client requirements and meet commitments to service levels. Client feedback can be used to efficiently identify problems in the service design and take corrective actions before the service is deployed. Involvement of the client, as well as the prevention of potential problems, improves client and end-user satisfaction.

Activities

1. Establish the procedures for reviewing the service design.
   a. Plan and provide the support for establishing the procedures.
   b. Document the procedures (output to ops_exe_5_2). These procedures address:
      1) Describing the purpose for reviewing and verifying the service design.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Prior to deployment, reviewing the service design within the organization.
         a) Determining and documenting methods to review the service design.
         b) Developing guidelines on applying the design review methods.
         c) Communicating the service design, review methods, and guidelines to relevant personnel.
         d) Incorporating review of the design into the plan (output to ops_exe_2_2).
         e) Reviewing the design for correctness, clarity, and adequacy (input from ops_exe_5_2).
      4) Prior to deployment, verifying that the service design meets client requirements (input from ops_pre_1_2).
         a) Determining and documenting methods to verify the service design with the client.
         b) Developing guidelines on applying the design verification methods.
         c) Communicating the service design, verification methods, and guidelines to the client.

d) Incorporating verification of the design into the plan (output to ops_exe_2_2).

e) Verifying the service design with the client.

5) Identify any discrepancies, taking action as appropriate (output to ops_exe_5_2).

6) Documenting the actions initiated based on the results of the review and verification, and tracking them to closure.

2. Implement the procedures for reviewing and verifying the service design.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the procedures.
   c. Communicate the procedures to relevant stakeholders.
   d. Review and verify the service design, according to the procedures.
3. Maintain the procedures for reviewing and verifying the service design.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b3. Reviews are conducted at specific milestones or defined intervals.

Activity 1b3a. Methods to conduct reviews include peer review of documentation, walkthroughs, simulations, demonstrations, scenario generators, and testing interfaces with other systems.

Activity 2b. Members of the review and verification team include members of the service design team (input from ppl_exe_1_2), personnel from functions involved in implementing the design, client personnel, subcontractors and vendors, and others, as specified in the contract (input from org_pre_3_2).

Attributes to Measure

- Effectiveness of review procedures
- Status of reviews
- Status of review feedback processing
- Timeliness of reviews

Deploy the service based on the design.

<u>Rationale</u>: Enable the organization to meet client requirements and expectations, in part, by basing the service deployment on the previously agreed upon service design.

The service design (see ops_exe_5_2) describes the framework for how the services documented in the service specification (see ops_exe_4_2) will be provided. The service deployment puts that framework into place so that service delivery can begin. Effective management of the deployment will help ensure that the organization is prepared to deliver the service according to the client requirements.

Activities

1. Provide the support for deploying the service.
2. Deploy the service based on the design (input from ops_exe_2_2, ops_exe_5_2).
   a. Deploy the physical environment (uses activities in *ppl_over_7_2*).
   b. Deploy the personnel structure.
      1) Assign and train personnel and teams to deliver the service based on the service design (uses activities in *ppl_over_4_2*, *ppl_over_6_2*).
      2) Train and integrate transferred personnel, as appropriate (input from ppl_exe_2_2).
      3) Reconfigure client interaction team based on service design, as appropriate (output to ppl_over_12_2).
   c. Deploy the technology infrastructure.
      1) Acquire technology as appropriate (input from tech_over_1_2).
      2) Configure and install required technology (uses activities in tech_over_1_2, tech_exe_1_2).
      3) Verify configuration and installation.
   d. Deploy the processes, policies and procedures.
      1) Distribute materials on processes, policies and procedures to relevant stakeholders.
      2) Train relevant stakeholders on processes, policies and procedures.
   e. Coordinate the deployment activities, ensuring that service delivery is integrated and based on the design.
3. Review the deployment activities against the expected results, taking action as appropriate (uses activities in *ops_over_2_2*; input from ops_exe_2_2).

Supplemental Information

Activity 2a. Includes client-supplied equipment or facilities.

Activity 2b2. Training needs to cover client personnel who are permanently transferred from the client to the organization, becoming the organization's employees (input from ppl_exe_2_2), and personnel who remain employees of the client (uses activities in ops_exe_12_2).

Activity 2d2. Training may include end-users (uses activities in ops_exe_12_2).

Attributes to Measure

- Effectiveness of deployment
- Status of deployment

Plan and deliver the service according to the service design.

<u>Rationale</u>: Meet service commitments satisfactorily, consistently, and according to plan.

Planning, using the service design and a defined planning process, helps ensure that all activities are allocated to appropriate personnel, and required resources are provided to meet service commitments. Delivering the service as specified in the service design should help ensure consistency in delivery of service and achievement of committed service levels.

Activities

1. Provide the support for delivering the service according to the service design and delivery plan.
2. Estimate the service delivery, based on the service design (input from ops_exe_5_2).
    a. Identify project deliverables.
    b. Identify client-supplied resources.
    c. Estimate the resources required for delivering the service, including the effort and timeframe required for each activity (input from km_exe_1_2).
    d. Determine milestones and planned progress reviews (output to ops_exe_16_2).
    e. Determine attributes to be monitored during service delivery (output to ops_exe_16_2).
    f. Determine monitoring methods and duration of monitoring for service delivery activities (output to ops_exe_16_2).
3. Plan the delivery of the service, based on the service design (input from ops_exe_5_2).
    a. Create a plan for managing service delivery.
    b. Create a plan for managing the physical environment.
    c. Create a plan for managing the technological infrastructure.
    d. Create a plan for managing the personnel structure.
    e. Create a plan for managing processes, policies and procedures.

4. Review the plan.
   a. Review the plan for correctness, clarity, and adequacy.
   b. Obtain approval of the plan.
   c. Communicate the plan to relevant stakeholders.
   d. Periodically review and revise the plan, as appropriate, based on deviations identified in tracking or based on changes to the service components (input from ops_exe_16_2, ops_exe_10_2).
5. Deliver the service according to the plan, maintaining compliance with the process and quality specifications (input from ops_exe_5_2; uses activities in *ops_over_2_2*; output to km_exe_1_2).
6. Periodically review the effectiveness and relevance of service delivery, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2b. Need to identify client-supplied resources that are being transferred (uses activities in ops_exe_8_2), as well as resources that are being managed by the client.

Activity 3. Planning is an ongoing activity during service delivery. Plans are typically updated based on service releases or budgeting cycles (e.g., semi-annually or annually). Commitments that should be documented in the plan include effort, cost, and schedule. Other commitments include service levels that are documented in the quality specification (input from ops_exe_5_2).

These are supplemented by more detailed delivery plans that are used to plan and manage delivery of individual service components. These more detailed plans often take the form of a team or project work plan with a list of specific tasks, work assignments, effort, due dates, milestones, deliverables, risks (input from org_exe_3_2), etc.

Activity 3d. This may include defining personnel and team targets based on service delivery commitments. Individual and team targets should be set to be in alignment with these delivery commitments.

Attributes to Measure

- Status relative to delivery plans
- Resource utilization for service delivery
- Quality of service delivery

Track the service delivery activities against the delivery plan, and take corrective action as appropriate.

<u>Rationale</u>: Manage expectations by taking corrective action when deviations from the plan occur to help ensure that the service is delivered as agreed upon with the client.

Tracking is required to provide adequate visibility to the organization on the progress of the service delivery activities. It enables the organization to take corrective action in case of deviations, which aids in meeting schedules and keeping financial commitments made to the client.

Activities

1. Provide the support for tracking the service delivery activities against the plan.
2. Track the service delivery activities against the plan for service delivery.
   a. Determine dispute handling and escalation methods.
   b. Track the service delivery activities against the plan using the defined monitoring methods (input from ops_exe_15_2; output to km_exe_1_2).
   c. Identify and track to closure actions to be taken when actual performance does not meet required outcomes (uses activities in *ops_over_2_2*; output to ops_exe_15_2).
   d. Communicate the progress of the service delivery activities to the relevant stakeholders.
3. Periodically review the effectiveness and relevance of the tracking, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1. Information required for tracking includes contract milestones, technology used, service level tracking logs, and penalties or bonuses associated with achievement of service delivery targets.

Attributes to Measure

- Status relative to delivery plans
- Resource utilization for service delivery
- Quality of service delivery
- Corrective action status

Establish and implement procedures to handover resources during contract completion.

<u>Rationale</u>: Manage the handover of service-related and client-provided resources to help ensure a smooth transition and to improve client satisfaction during contract completion.

An established procedure for resource handover after contract completion supports consistently and smoothly transitioning either to another service provider or back to the client. This establishes a basis for future relationships with the client.

This Practice is tightly coupled with ppl_post_1_2. While the focus of ppl_post_1_2 is on the transfer of personnel, ops_post_1_2 is an overarching Postcontract Practice that covers effective transfer of all resources, including personnel. ppl_post_1_2 is defined as a separate Practice because of the criticality of personnel transfer and the high risk of failure if it is not done well. It also emphasizes the need to transfer skills, which may not be considered a "resource."

Activities

1. Establish the procedures for handing over resources.
   a. Provide the support for establishing the handover procedures.
   b. Document the handover procedures. These procedures address:
      1) Describing the purpose for handing over resources.
      2) Identifying handover activities, especially activities covered in the contract (input from org_pre_3_2, ops_over_9_2).
      3) Estimating the resources required, including the effort and timeframe required for each handover activity (input from km_exe_1_2).
      4) Planning the handover of resources.
         a) Developing a transition plan and schedule for the physical environment (input from *ppl_over_7_2*).
         b) Developing a transition plan and schedule for the technological infrastructure (input from tech_over_3_2).
         c) Developing a transition plan and schedule for the personnel structure (input from *ppl_over_4_2*; uses activities in ppl_post_1_2).
         d) Developing a transition plan and schedule for processes and procedures.
      5) Determining dispute handling and escalation methods.
      6) Communicating the plan and dispute handling methods to relevant stakeholders.
      7) Handing over resources based on the plan.
         a) Handing over the physical environment (input from *ppl_over_7_2*).
         b) Handing over the personnel structure (uses activities in ppl_post_1_2).

c) Handing over the technology infrastructure.

d) Handing over the processes and procedures.

8) Ensuring continuity of service during handover activities.

9) Ensuring verification and accounting of resources handed over (input from org_pre_3_2, ops_over_9_2, ops_exe_8_2, ppl_post_1_2, tech_over_3_2, tech_over_4_2).

10) Obtaining client acceptance of resources handed over (input from ppl_post_1_2).

2. Implement the procedures for handing over resources.
   a. Provide the support for implementation of the handover procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Handover resources, according to the procedures.
3. Maintain the procedures for handing over resources and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Handover activities include withdrawing personnel from the client site, packing and transporting resources, and installing technology at the client site.

Activity 1b4. Resources to be handed over include service-related documents, software, hardware, licenses, and personnel. Resources can also include contextual knowledge gained during the client engagement, such as techniques and methods developed; information to carry out activities; lessons learned; and troubleshooting methods.

Initial design and deployment plans may be used to help identify transition plan activities. For details on what may be involved in these activities see Practice ops_exe_14_2.

Attributes to Measure

- Status of resources being returned
- Effectiveness of return procedures

Establish and implement procedures to ensure the continuity of service during contract completion.

Rationale: Improve client satisfaction by helping ensure that service continuity is maintained as service is transitioned back to the client, or other service provider.

An established procedure for handover of services supports consistently and smoothly transitioning either to another service provider or back to the client. Facilitating the handover of service helps to ensure the client's business is not disrupted and service continues to be provided during the contract completion activities. This establishes a basis for future relationships with the client.

Activities

1. Establish the procedures for ensuring continuity of service during contract completion or termination.
   a. Plan and provide the support for establishing the service continuity maintenance procedures.
   b. Document the service continuity maintenance procedures. These procedures address:
      1) Describing the purpose for ensuring continuity of service during contract completion.
      2) Defining roles, responsibility and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Assessing readiness for client, or its designee, to provide the service.
      4) Identifying the role of subcontractors and vendors in maintaining continuity of service (input from ops_over_3_2).
      5) Developing a plan and schedule for maintaining continuity of service.
         a) Testing release of service.
         b) Resolving any issues uncovered in the release testing.
         c) Developing contingency plans in the event of failure of service (input from ops_exe_6_3).
         d) Determining dispute handling and escalation methods.
         e) Providing lessons learned from delivering the service to the client (input from km_over_4_3).

f) Identifying and providing training needed for personnel taking over the service.
g) Handing over resources (uses activities in ppl_post_1_2 and ops_post_1_2).

6) Reviewing the plan and obtaining approval from relevant stakeholders.
7) Implementing the plan.
8) Obtaining and documenting client acceptance on transfer of service.

2. Implement the procedures for ensuring continuity of service during contract completion.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the service continuity assurance procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Ensure continuity of service during contract completion or termination, according to the procedures.
3. Maintain the procedures for ensuring continuity of service during contract completion or termination.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*; input from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action if required (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b5. The plan should include the approach taken to maintain continuous service. Different approaches are to provide parallel service, staged transfer of service, or a straight handover of service. The approach taken should be negotiated with the client and may be outlined in the contract (input from org_pre_3_2). The approach agreed upon will depend on the risks associated with each approach. For instance, if service delivery is vital to the client's survival then an approach providing parallel service or a staged transfer is more appropriate.

Activity 1b5a. The release test should ensure that the client (or client's designee) is fully prepared to begin delivery of the service. Personnel who are to be responsible for the service delivery should participate in the release test and have an opportunity to voice concerns. Release testing includes creating business scenarios (e.g., service requests, problem events, and escalations) and testing the service delivery within these scenarios.

Activity 1b5f. This can include client training if the client is taking over service delivery (uses activities in ops_exe_12_2).

Attributes to Measure

- Pervasiveness of procedure awareness among expected users
- Pervasiveness of procedure training among expected users
- Pervasiveness of procedure understanding among expected users
- Pervasiveness of procedure adherence
- Effectiveness of the procedure

Obtain and analyze client feedback during contract completion.

Rationale: Improve the organization's capability for designing and delivering services by soliciting and analyzing client feedback during contract completion.

Getting client feedback during contract completion is essential for understanding the reasons for completion, particularly in the case of termination, and also for maintaining client relationships. Client feedback, when compared to internal performance targets, provides input to the organization that can be used for improvement.

Activities

1. Provide the support for obtaining and analyzing client feedback during contract completion.
2. Obtain and analyze client feedback during contract completion.
   a. Identify the attributes of the delivered service that require client feedback.
   b. Identify contact personnel, media, and methods for obtaining feedback from the client.
   c. Identify client personnel from whom to obtain feedback.
   d. Document, aggregate, and analyze the feedback from the client on the delivered service.
   e. Identify any actions to be taken, and track them to closure.
   f. Communicate the results of the feedback analysis and actions taken to relevant stakeholders.
3. Periodically review the effectiveness and relevance of obtaining and analyzing feedback, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. Attributes of service on which to obtain client feedback include client satisfaction or dissatisfaction with the service delivered and perceptions on the quality of service, personnel, and technology used.

Activity 2b. Points of contact with client for feedback include personnel responsible for coordination, reporting and escalation from the client and the service provider. Methods and media for feedback include scheduled meetings, e-mails, and extranets.

Activity 2e. Most actions taken will impact other contracts. Actions taken include making modifications in organizational procedures, implementing better monitoring on the quality of the service, and planning necessary training for personnel.

Attributes to Measure

- Status of feedback
- Effectiveness of feedback analysis

Establish and implement procedures to acquire, deploy, and upgrade technology.

Rationale: Enable the organization to meet committed service levels and satisfy security, confidentiality, and regulatory requirements more effectively and efficiently, in part, by acquiring, upgrading, and deploying technology in an orderly manner.

An established procedure supports consistently, effectively, and efficiently acquiring, upgrading, and deploying technology in a smooth transition, without disruption to the services being delivered. New technologies may be necessary to meet committed service levels and to satisfy security, confidentiality, and regulatory requirements.

Activities

1. Establish the procedures for acquiring, deploying, and upgrading technology.
   a. Provide the support for establishing the acquisition, deployment, and upgrade procedures.
   b. Document the acquisition, deployment, and upgrade procedures. These procedures address:
      1) Describing the purpose for acquiring, deploying, and upgrading technology.
      2) Identifying the needs for acquiring and upgrading technology, based on client requirements and contractual commitments (input from org_pre_3_2, ops_over_8_2, ops_pre_1_2, ops_exe_4_2; output to ops_exe_5_2).
      3) Identifying and evaluating technology alternatives that meet the identified needs and selecting the appropriate alternative (output to tech_over_3_2, ops_exe_5_2).
      4) Identifying and selecting subcontractors or vendors to provide or support technology acquisition, deployment, and upgrade activities (uses activities in ops_over_3_2).
      5) Making necessary changes to licensing provisions (output to ops_over_9_2).
      6) Planning the transition of the technology into the organization (output to ops_exe_2_2).
      7) Preparing contingency plans to ensure continuity of services in the event of failures during transitions.
      8) Transitioning the technology into the organization (output to ops_exe_14_2).
      9) Track and control changes to the technology during the transition (uses activities in tech_over_3_2).

10) Identifying and analyzing the problems encountered during the transition, and tracking them to closure.
11) Verifying that the transitioned technology meets the identified needs, and taking action as appropriate.

2. Implement the procedures for acquiring, deploying, and upgrading technology.
   a. Provide the support for implementation of the technology acquisition, deployment, and upgrade procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Acquire, deploy, and upgrade technology, according to the procedures.
3. Maintain the procedures for acquiring, deploying, and upgrading technology and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b3. Evaluation should be done based on defined criteria that include compatibility with existing technology, capability of existing personnel to operate and maintain the technology, expected stability of the technology and the proprietary nature of the technology and supporting systems. Criteria should also include a decision between upgrading and replacing existing technology.

Activity 1b6. Transition plans include selecting and acquiring technology, installing it, testing it, training involved personnel, and integrating it with existing internal infrastructure and with that of the client.

Activity 1b7. The contingency plans should cover parallel operations of the new and old technology, when appropriate. Parallel operations help to ensure that service delivery is not disrupted in the event that the new technology fails or does not fully operate as expected.

The contingency plan should also include an analysis of the impact on the service design, deployment, and delivery activities (input from ops_exe_5_2, ops_exe_14_2, and ops_exe_15_2), and plan for feasible alternatives, before making changes to the technology infrastructure. Impacts of the changes in the technology infrastructure include disruptions in service delivery, service accessibility, service functionality, and operational efficiency, and the additional effort required to convert files and change storage mechanisms.

Activity 1b11. Verification may be done through testing, inspection, simulation, and prototyping.

Attributes to Measure

- Age of technology
- Status of technology upgrades
- Effectiveness of the technology upgrade procedures

Establish and implement procedures to manage the security of the technology infrastructure.

<u>Rationale</u>: Protect and securely manage the technology resources required to meet service levels and requirements for security, confidentiality, and protection of intellectual property.

An established procedure for managing technology infrastructure security supports consistently and effectively protecting and distributing the technology resources that are required to provide service according to agreed upon service levels. In addition to security-related software and security-related procedures, the underlying technology infrastructure needs to be protected from physical compromise. Demonstrating appropriate security for the technology infrastructure enhances a client's trust in the organization. Breakdowns in security or confidentiality can damage the relationship with stakeholders and make involved parties vulnerable to legal action. Security breaches can impact the organization's ability to provide adequate service.

Activities

1. Establish the procedures for managing the security of the technology infrastructure.
   a. Provide the support for establishing the infrastructure security management procedures.
   b. Document the infrastructure security management procedures. These procedures address:
      1) Describing the purpose for managing the security of the technology infrastructure.
      2) Identifying areas of focus for managing the security of technology infrastructure based on the organization's security, confidentiality and protection of intellectual property policies (input from *org_over_2_2*).
      3) Identifying additional security management requirements for specific client engagements (input from ops_over_8_2, ops_over_9_2).
      4) Identifying potential security threats in the security, confidentiality and protection of intellectual property policies, in the risk management plan, and through monitoring the internal and external environment for evolving threats to an organization's security (input from *org_over_2_2*, org_exe_3_2).
      5) Defining appropriate actions to be taken for the management of security, in response to the threats identified from the monitoring activity.
      6) Documenting the actions taken and tracking them to closure.
      7) Maintaining documentation of changes made to the security management procedures and the actions taken.

2. Implement the procedures for managing the security of the technology infrastructure.
    a. Provide the support for implementation of the infrastructure security management procedures.
    b. Communicate the procedures to the relevant stakeholders.
    c. Manage the security of the technology infrastructure, according to the procedures.
3. Maintain the procedures for managing the security of the technology infrastructure, and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Areas addressed by an organization's security management activities include securing the organization's internal computing resources (e.g., network servers, workstations, local area network, software, applications, and communication infrastructure); securing access to public servers and web servers; usage of appropriate firewalls; usage of intrusion detection systems; and formulating responses to intrusions.

Activity 1b3. Additional requirements may include new software for authentication of users, new encryption software and tools, configuration of network and communication protocols, additional hardware and operating systems, and additional or new variants of virus checkers.

Activity 1b4. Monitoring internal security may be done by using software tools, designated teams, security audits, mock tests and simulations, and deliberate attempts to break into the information infrastructure. Monitoring of the external environment may be done through coordination with specialists, vendors, and subcontractors.

Monitoring should include audits of proposed changes to the technology infrastructure to ensure security is not compromised with the introduction of new elements or components. A newly introduced element or component may have design flaws that may introduce security holes that can be exploited by intruders or changes made to the infrastructure to integrate the new element may introduce vulnerabilities.

Attributes to Measure

- Security incidents
- Status of security related action items

Establish and implement procedures to track and control changes in the technology infrastructure.

<u>Rationale</u>: Maintain the integrity of the technology infrastructure for delivering the service by tracking and controlling changes made to it.

An established procedure for controlling change to the technology infrastructure supports consistently using that infrastructure for designing and delivering the service. The integrity of service design and delivery depends on the technology infrastructure used to deliver those services. Uncontrolled changes to that infrastructure can lead to violations of the assumptions underlying the service design and failures in service delivery or security.

Activities

1. Establish the procedures for tracking and controlling changes to the technology infrastructure.
   a. Provide the support for establishing the procedures for tracking and controlling changes to the technology infrastructure.
   b. Document the tracking and control procedures. These procedures address:
      1) Describing the purpose for tracking and controlling changes to the technology infrastructure.
      2) Identifying the changes required to the technology infrastructure (input from ops_exe_8_2, tech_over_1_2).
      3) Formulating guidelines for assigning identifiers to the various components of the technology infrastructure.
      4) Assigning a unique identifier to all components of the technology infrastructure based on the formulated guidelines.
      5) Maintaining an inventory of the various components in the technology infrastructure (input from ops_exe_8_2; output to ops_post_1_2).
      6) Maintaining documentation on changes to the technology components.
      7) Ensuring that the procedures to track and control changes comply with the policies and requirements for security, confidentiality, and protection of intellectual property (input from *org_over_2_2*, ops_over_8_2, ops_over_9_2).

2. Implement the procedures for tracking and controlling changes to the technology infrastructure.
   a. Provide the support for implementation of the tracking and control procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Track and control changes to the technology infrastructure, according to the procedures.
3. Maintain the procedures for tracking and controlling changes to the technology infrastructure and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Technology infrastructure changes include changes to the hardware; changes to the software applications, tools, and upgrades; and changes to the communication applications and tools.

Activity 1b3. Identification is assigned to technology components by using suitable naming or numbering conventions. Ensure that changes are appropriately reflected in the identification assigned to the technology components.

Activity 1b7. The client's requirements for security, confidentiality, and protection of intellectual property related to technology may require prohibiting the use of unauthorized or unlicensed software or other specific software, disposing of retired technology, and controlling access to the Internet.

Attributes to Measure

- Effectiveness of the tracking and controlling procedures
- Adherence to the tracking and controlling procedures
- Change activity and status

Establish and implement procedures to manage technology licenses.

<u>Rationale</u>: Avoid legal liabilities and legal actions that could impact service performance by explicitly addressing needed technology licenses.

An established procedure for managing necessary technology licenses, as part of an agreement with a client, is essential for consistently avoiding liabilities and legal actions that could impact service performance. This can be a complex issue if the service or the client relationship spans national boundaries or other legal entities where multiple legal or regulatory requirements may be imposed. Proactively addressing licensing issues aids in building a client's trust in the organization.

Activities

1. Establish the procedures for managing technology licenses.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for managing technology licenses.
      2) Identifying requirements for proprietary and third party technology licenses.
         a) Identifying existing client technology resources that will be used in designing, deploying, and delivering the service.
         b) Identifying existing technology resources from the organization, subcontractors, or vendors that will be used in designing, deploying, and delivering the service.
         c) Identifying new technology resources that need to be acquired (uses activities in tech_over_1_2).
         d) Determining and documenting usage restrictions on identified technology.
      3) Incorporating licensing requirements into the contracts between the organization, client, subcontractors and vendors, as appropriate (output to org_pre_3_2, ops_over_3_2).
      4) Coordinating with clients and third parties to obtain the licenses needed, based on identified requirements.
      5) Reviewing the obtained licenses to ensure they meet identified requirements.
      6) Creating an inventory of obtained licenses (output to ops_post_1_2).
      7) Communicating information about obtained licenses and associated rights and responsibilities to relevant stakeholders.

8) Monitoring license usage.

9) Maintaining licenses and associated documentation.

10) Transferring of licenses to the client, or designee, during contract completion (uses activities in ops_post_1_2).

2. Implement the procedures for managing technology licenses.
   a. Provide the support for implementation of the procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Manage technology licenses according to the procedures.
3. Maintain the procedures for managing technology licenses and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Technology resources requiring licensing may include specific software components, software applications, software development and maintenance tools, and hardware components. These may either be proprietary in nature (e.g., developed specifically for use with that client and incorporating technology which gives them a competitive advantage) or may be resources that are sold by a third party (e.g., packaged applications).

Activity 1b2d. Usage restriction should clearly indicate the organization's rights, if any, to use the licensed technology for other purposes (e.g., in the support of other clients).

Activity 1b3. Contracts need to ensure that appropriate licensing coverage is being obtained to protect the client, the organization, and the subcontractors and vendors. Inability of all parties to obtain required licenses for the technology used to deliver the service may cause significant risks and delays in the ability of the organization to respond to client needs.

Activity 1b5. The attributes of the licenses should be checked for their match with requirements. For example, if the organization has 20 users for a technology then the license should allow at least 20 users. Other attributes to address include price, vendor support, expiration, and renewal methods.

Activity 1b9. Licenses may need to be updated due to a number of circumstances, such as change in number of personnel, change in number or location of sites used to deliver the service, change in use of subcontractors, or technology upgrades (input from tech_over_1_2).

Activity 1b10. The organization may not have direct ability to influence the transfer of licenses (e.g., licenses to use a third party technology). However, the organization is expected to facilitate the process to ensure a smooth transition of service delivery back to the client, or designee.

Attributes to Measure

- Amount of licensed technology
- License costs
- License utilization

Establish and implement procedures to proactively identify and introduce appropriate technology.

<u>Rationale</u>: Improve organizational performance and achieve long-term organizational objectives, in part, by identifying and introducing appropriate technology.

An established procedure for identifying and introducing technology supports consistent technology adoption with minimal disruption. Performance improvements based on using appropriate, effective, and efficient technologies are necessary for achieving organizational objectives and customer satisfaction over the long term. An organization needs to not just keep pace with technology changes but also to develop new capabilities with up-to-date technologies to remain competitive and meet customer needs and expectations.

Activities

1. Establish the procedures for identifying and introducing technology.
   a. Provide the support for establishing the procedures.
   b. Document the procedures. These procedures address:
      1) Describing the purpose for identifying and introducing technology.
      2) Defining roles, responsibilities, and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Establishing methods for proactively monitoring technology innovations within the organization and industry.
         a) Identifying types of technology to be monitored.
         b) Identifying sources of technology information to be monitored (output to org_over_15_4).
         c) Determining frequency of monitoring.
      4) Identifying opportunities through monitoring (output to org_over_15_4).
      5) Identifying potential impact of identified opportunities uncovered through monitoring (input from *org_over_9_4*, ops_over_7_4).
         a) Developing a business case for each opportunity.
         b) Prioritizing opportunities based on the business case and organizational objectives (input from *org_over_1_3*).
         c) Selecting the opportunities to pursue based on the priorities.

6) Communicating identified opportunities and impact analysis to relevant stakeholders.

7) Obtaining agreement with relevant stakeholders on potential changes to service or service levels to be pursued based on identified opportunities.

8) Initiating potential changes to services or service levels based on agreed opportunities (output to ops_exe_11_2).

9) Introducing appropriate technology (using activities in tech_over_1_2).

2. Implement the procedures for identifying and introducing technology.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the technology identification and introduction procedures.
   c. Communicate the procedures to the appropriate personnel.
   d. Identify and introduce technology, according to the procedures.
3. Maintain and verify the procedures for identifying and introducing technology.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b5a The business case should be based on a cost-benefit analysis, feedback from organizations where similar technology is in use, feedback on the experience of end-users, trials and demonstrations, analysis of operation and maintenance costs, and an analysis of obsolescence and economic life span. The business case should take into consideration organizational objectives (input from *org_over_1_3*), business and market strategies, problems faced in operations, new contractual commitments, and changes in the business environment.

The business case should include an impact analysis of the changes required, including changes to the systems and infrastructure of clients and partners. Financial considerations such as set up costs, integration costs, training costs, back up costs, and the retirement of existing systems, parts and components, must also be considered. Positive impacts, such as improved performance, greater efficiencies, or new capabilities, may balance the effects of adverse impacts.

Activity 1b8. Changes to the service should include creation of a transition plan (uses activities in tech_over_1_2).

Attributes to Measure

- Return on investment from new technology
- Benefits from new technology
- Status of new technologies relative to their transition plans
- Status of new technology identification activities

Establish and implement procedures to integrate an organization’s technology infrastructure with that of the client, as appropriate.

<u>Rationale</u>: Prevent service disruptions and security lapses during service delivery and establish an efficient technology infrastructure, in part, by integrating the organization’s technology infrastructure with that of the client.

An established procedure for integrating with the client’s technology infrastructure supports consistently and effectively preventing service disruptions and security lapses during service deployment. This also helps ensure that service deployment proceeds as planned, with optimum utilization of the allocated resources.

Activities

1. Establish the procedures for integrating technology infrastructures.
   a. Provide the support for establishing the infrastructure integration procedures.
   b. Document the infrastructure integration procedures. These procedures address:
      1) Describing the purpose for integrating technology infrastructures of an organization and its client.
      2) Incorporating the technology integration plan into the transition plan for technology infrastructure (output to ops_exe_2_2).
      3) Determining client contact personnel who will be involved in the integration.
      4) Identifying and analyzing technology components required for technology integration, including examining of combined assets for redundancy (output to ops_exe_8_2).
      5) Integrating the client and organization’s technology infrastructure in accordance with procedures to deploy technology (uses activities in tech_over_1_2) and track changes to technology (uses activities in tech_over_3_2).
      6) Reviewing the performance of the integrated technology against the expected performance, taking action as appropriate.
      7) Obtaining the appropriate client approval for the technology integration.
      8) Identifying the end-users of the integrated technology and providing them access to the technology.

9) Monitoring and maintaining the integrated technology infrastructure, taking action as appropriate and tracking them to closure.

10) Ensuring that the procedures comply with the procedures for managing the security of the technology infrastructure (uses activities in tech_over_2_2), and taking necessary action.

2. Implement the procedures for integrating technology infrastructures.

   a. Provide the support for implementation of the infrastructure integration procedures.
   b. Communicate the procedures to the relevant stakeholders.
   c. Integrate the technology infrastructures, according to the procedures.

3. Maintain the procedures for integrating technology infrastructures and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b4. The need for the integration of technology components may be identified during the capturing of client requirements (input from ops_pre_1_2) or it may be proposed by the organization. Technology components include both physical and functional components. Examples of each include: physical components such as servers, network couplers and database bridges; and functional components such as extranets, databases, enterprise software applications, and web sites.

Establish guidelines for examining redundant assets for redeployment, lease, sale, etc. Consider using redundancies to accomplish disaster recovery objectives (output to org_over_13_2).

Activity 1b6. Examples of performance reviews include dry runs, simulation, and overload tests.

Activity 1b10. Actions required to address security issues include installation of firewalls, allocating passwords, configuring antivirus software, defining media and storage of back-up data, and defining stand-by arrangements in case of failures and problems.

Attributes to Measure

- Effectiveness of technology integration procedure
- Comprehensiveness of technology integration procedure

Optimize the overall performance of the technology infrastructure needed to deliver all services.

<u>Rationale</u>: Manage the performance of the technology infrastructure across engagements in order to enhance overall performance and support effective delivery of service to new and existing clients.

Making effective use of the organization's technology infrastructure across engagements allows efficient load balancing (the ability to meet peak loads in one service without unnecessarily expanding the infrastructure to meet peak loads in all services independently). Optimizing does not mean the organization has to have 100% efficiency in its infrastructure or that the organization must optimize the performance of each part of the technology infrastructure. Optimizing overall performance may imply suboptimal performance in one part of the infrastructure (e.g., slack) to balance the demands of another part of the infrastructure. Optimizing also implies contingency planning in the event of infrastructure failures and indicates direction for upgrading or acquiring appropriate technology.

Activities

1. Plan and provide the support for optimizing the overall performance of the technology infrastructure needed to deliver all services.
2. Optimize the technology infrastructure needed to deliver services.
   a. Identify technology infrastructure required to deliver services for all contracts (input from org_pre_3_2).
   b. Identify attributes of the technology infrastructure to optimize.
   c. Determine optimization targets for identified attributes.
   d. Determine how existing technology fulfills the infrastructure requirements (input from tech_over_3_2).
   e. Identify opportunities to optimize the technology infrastructure.
   f. Create a plan for optimizing technology infrastructure across contracts.
   g. Align the plan with organizational objectives (input from *org_over_1_3*).
   h. Review the plan for correctness, clarity, and adequacy.
   i. Optimize the technology infrastructure according to the plan (output to tech_over_1_2).
3. Monitor the performance of the technology infrastructure needed to deliver services (output to org_over_16_3).
   a. Define the attributes of the technology infrastructure to be monitored.
   b. Define and document the performance measures for the attributes that need to be monitored.

c. Define and document the methods used for monitoring the defined attributes.
d. Define ranges of acceptable performance for each of the measures, based on the optimization targets.
e. Gather performance measures for the defined attributes (input from *org_over_7_3*).
f. Periodically review the performance against the defined criteria and document results.
g. Identify gaps between actual and expected performance and take corrective action, as appropriate (output to km_over_4_3).
h. Communicate the results of the monitoring and the actions to be taken to relevant stakeholders.

4. Verify consistency of monitoring across the organization, and take action as appropriate (uses activities in *org_over_10_3*).
5. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).

Supplemental Information

Activity 2b. Examples of attributes to optimize include response time, space utilization, and backups.

Activity 2e. One way to optimize technology infrastructure is to balance the technology load across the organization's contracts by using excess capacity to fill demand from different time zones. For example, establishing a shift schedule at one site to accommodate demand from multiple time zones.

Activity 2f. The plan may include acquisition or disposal of technology, as appropriate (uses activities in tech_over_1_2).

Activity 3a. Attributes to monitor include performance, availability, responsiveness, utilization, recoverability, and security.

Activity 3b. Measures used include percentage of uptime for specific areas, percentage of uptime for technology infrastructure, seek and response time for specific queries, percentage utilization of the CPU, time to repair, and time to restore.

Activity 3g. Identified actions include upgrading or replacing hardware, software, or network equipment.

Attributes to Measure

- Optimization attributes relative to targets
- Effectiveness of optimizations
- Status of optimization activities

Establish and implement a policy to share knowledge among stakeholders.

Rationale: Encourage knowledge sharing among all stakeholders to enable stakeholders to learn and continuously improve their levels of performance while building stronger relationships among the stakeholders.

An established policy for sharing knowledge demonstrates, in part, management commitment to knowledge sharing. In addition, it clarifies the rules by which knowledge can be shared between the organization, client, subcontractors, and vendors.

Activities

1. Establish a policy for sharing knowledge amongst stakeholders.
   a. Provide the support for establishing the knowledge sharing policy.
   b. Document the knowledge-sharing policy. This policy addresses:
      1) Describing the purpose for sharing knowledge.
      2) Aligning the policy with organizational objectives (input from *org_over_1_3*).
      3) Defining roles, responsibilities, and authorities of the personnel implementing the policy (uses activities in *org_over_5_3*).
      4) Identifying stakeholders to participate in knowledge sharing.
      5) Establishing procedures and incentives to encourage sharing and contribution of useful knowledge.
      6) Developing systems and processes for knowledge sharing among stakeholders (output to *km_over_3_3*).
      7) Tracking and recording actions and initiatives facilitated by the sharing of knowledge.
2. Implement a policy for sharing knowledge.
   a. Create a plan for implementing the policy.
   b. Provide the support for implementation of the knowledge-sharing policy.
   c. Communicate the policy to the appropriate personnel.
   d. Share knowledge among stakeholders, according to the policy.

3. Maintain and verify the policy for sharing knowledge.

   a. Maintain and periodically review the policy and actions taken to implement the policy (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the policy across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b5. Procedures and directives that encourage contributing and sharing knowledge may include procedures for periodically conducting knowledge sharing meetings, publicizing and implementing incentives for knowledge sharing, and recognizing improvements attributable to knowledge sharing.

Activity 1b6. Methods for sharing knowledge include meetings, forums, queriable databases, case repositories, storyboards, contract kick-off meetings, contract completion meetings, company intranets, bulletin boards, client meetings, and conferences and seminars.

Attributes to Measure

- Pervasiveness of policy awareness
- Pervasiveness of policy training
- Pervasiveness of policy understanding
- Pervasiveness of policy adherence
- Effectiveness of the policy
- Benefits derived from knowledge sharing

Identify, control, and provide the information required to perform service-related and support activities.

<u>Rationale</u>: Provide access to the information essential for personnel to do their work while maintaining appropriate levels of control.

Control of information includes maintaining version control of documents and managing the information in a way that is consistent with the organization's approach (policies and procedures) for security, confidentiality, intellectual property, and privacy. Easy access to required information enables personnel to be more efficient in the performance of their work.

Activities

1. Provide the support for identifying, controlling, and providing the information required to perform service-related and support activities.
2. Identify, control and make available the information personnel need to perform their duties.
   a. Identify the information needed by personnel to perform their duties.
   b. Identify personnel, or other stakeholders, who require access to the information.
   c. Determine methods and media for organizing, controlling and providing the information.
   d. Ensure that access and control of information comply with the security, confidentiality and protection of intellectual property policies (input from *org_over_2_2*).
   e. Review the identified information for correctness, clarity, and adequacy before making it available.
   f. Provide the information to appropriate personnel, following the security, confidentiality and protection of intellectual property when providing access to information (input from *org_over_2_2*; output to *org_over_4_2*).
   g. Define and communicate steps personnel need to follow to request additional information.
   h. Update the information collected, as needed, within defined timeframes.
3. Periodically review the relevance of the identified information, and take action as appropriate (uses activities in *ops_over_2_2*).
4. Periodically review the effectiveness of the methods and media used for organizing, controlling and providing the information, and take action as appropriate (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 2a. Information needed may include policies; guidelines; procedures, sample outputs from the procedures, such as a sample project plan or service specification; manuals; historical data such as effort, time, and cost; errors or difficulties encountered; suggestions; updates to information.

Activity 2c. Methods for controlling information include version control, templates, naming conventions, etc. Organizations may use intranets, the Internet, compact discs, and hard copy to provide access to required information.

Activity 2d. Ensure access and control of information to meet the client's requirements for security, confidentiality, and protection of intellectual property (uses activities in ops_over_8_2), as appropriate.

Activity 2f. Providing information includes anticipating as well as responding to information required. For instance, procedures and handbooks should be distributed automatically to the relevant stakeholders. Other information, such as market information, is provided upon request.

Activity 2h. Maintain version control of information updates.

Activity 4. Action taken to increase effectiveness includes improving electronic access infrastructure with better software, hardware, and network bandwidth.

Attributes to Measure

- Quality of information
- Use of information
- Quantity of information

Establish and implement a knowledge system to identify, control and disseminate information.

Rationale: Provide a coordinated knowledge system that allows the organization to keep information up-to-date and allows personnel to easily locate required information.

A coordinated knowledge system enables personnel to be more efficient in the performance of their work. It may reduce turnaround time for responding to client requirements and improve the quality of responses in part by using knowledge captured from previous client engagements. A knowledge system does not mean that the organization must have a central electronic repository of information, but rather that the organization has a coordinated method for managing and disseminating needed information.

This Practice expands on *km_over_2_2*, which covers provision of information needed to perform service-related and support activities. The focus of *km_over_3_3* is expanded to not only cover information directly related to service provision, but to cover all information needed by the organization. It also adds the requirement of establishing a formal knowledge system used to control and disseminate information and knowledge. A knowledge system may be implemented through one or more databases, file systems, physical storage media, or other methods for systematically providing needed access and controlling information.

Activities

1. Plan and provide the support for establishing a knowledge system.
2. Establish a knowledge system.
   a. Identify sources and classes of information needed to support organizational objectives.
      1) Identify information needed to support organization objectives (input from *org_over_1_3*).
      2) Identify information needed about clients.
      3) Identify information needed about employees.
      4) Identify information needed about subcontractors and vendors.
      5) Identify information needed to support the sourcing process.
      6) Identify personnel, or other stakeholders, who require access to the information.
   b. Gather and control the identified information.
      1) Determine methods and media for gathering and updating information.
      2) Review the identified information for correctness, clarity, and adequacy.
      3) Determine methods for organizing the identified information.
      4) Determine methods for controlling the identified information.
         a) Determine security, confidentiality, privacy and protection of intellectual property requirements (input from *org_over_2_2*).
         b) Determine access rights.

c. Disseminate the information.
   1) Determine information dissemination strategy.
   2) Determine methods and media for disseminating information to relevant stakeholders.
   3) Develop guidelines on how to use the knowledge system.
   4) Provide the information to appropriate personnel.
d. Monitor the usage of available knowledge, and take action as appropriate.
e. Create a plan for implementing the knowledge system.
f. Provide the support for implementation of the knowledge system.
g. Communicate the dissemination strategy and guidelines on how to use the information to the relevant stakeholders.
h. Gather and organize identified information into a knowledge system.
i. Identify, control and disseminate information using the knowledge system

3. Periodically review the effectiveness and relevance of the knowledge system, and take action as appropriate (uses activities in *ops_over_2_2*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2c1. The organization needs to determine what information gets disseminated and how it gets disseminated. Some information will be provided on demand (e.g., user requests for help), while other information will be supplied as it is available (e.g., broadcast of a change in policy).

Activity 2c2. Methods and media should support the dissemination strategy. Some methods and media are more suited for broadcast (e.g., newsletters, posters and e-mail announcements) versus on-demand information (e.g., web browser, knowledge databases, telephone help desk).

Activity 2d. Attributes to monitor may include ease of access, response time of the knowledge system, availability of needed information, information usage. Actions to take may include increasing infrastructure capacity, removing obsolete information, and obtaining updated information.

Attributes to Measure

- Ease of access
- Usability
- Usage
- Availability of needed information

Analyze and use knowledge gained from client engagements.

<u>Rationale</u>: Analyze knowledge gained from experience to understand the organization's strengths and areas needing improvement.

Analysis of knowledge gained from experience enables the organization to identify opportunities that can improve the organization's performance with existing and future clients. Use of this knowledge may also stabilize current performance and lead to improved service levels.

Activities

1. Plan and provide the support for analyzing and using knowledge gained from client engagements.
2. Analyze and use knowledge gained from client engagements.
   a. Identify the sources and classes of knowledge to be captured (input from *org_over_7_3*, *org_over_10_3*, *ops_over_2_2*, ops_over_6_3, ops_exe_6_3, tech_exe_2_3, km_over_8_3, km_exe_1_2*)*.
   b. Gather and maintain the identified knowledge.
   c. Analyze the knowledge gained from client engagements (output to org_over_16_3, ops_over_6_3, ops_post_2_3).
      1) Analyze lessons learned.
      2) Determine applicability of knowledge to other areas of the organization.
      3) Identify opportunities for improvement (output to org_over_16_3).
   d. Communicate the analysis to relevant stakeholders.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a. Classes of knowledge gained from past client engagements include the following:

- Service related: Procedures followed; client requirements; time taken to complete jobs; nature of service components; changes in service design, deployment, and delivery; best practices followed; mistakes committed and lessons learned; innovative approaches to problem resolution.
- Client related: Nature of clients, their expectations, communication methodologies, cultural attributes, and their style of working.

Attributes to Measure

- Pervasiveness of engagement knowledge capture
- Usefulness of engagement knowledge
- Currency of captured engagement knowledge

Identify and reuse work products.

Rationale: Provide access to work products that have been effectively used in the past in order to enable personnel to take advantage of past successes and to propagate expert practices.

Reuse of work products can help an organization to save considerable amounts of effort, time, and cost while also helping to standardize the quality of work products being used.

Work product refers to any document internal to the organization (e.g., policy, technical designs), client deliverable (e.g., customized software, user documentation), or service component (e.g., service specification, service delivery procedures) used throughout the sourcing process.

Activities

1. Plan and provide the support for identifying and reusing work products.
2. Identify and reuse work products.
   a. Identify reusable work products.
   b. Gather reusable work products.
   c. Analyze collected work products for their completeness, usability and compliance with organizational standards, before making them available for reuse.
   d. Modify collected work products, based on the review, before reuse.
   e. Develop guidelines for reuse of the identified work products.
   f. Communicate availability of reusable work products and guidelines for their use to relevant stakeholders.
   g. Providing the reusable work products to relevant stakeholders (output to ops_exe_1_3).
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2d. Usage of the system to organize, control and provide reusable work products should be monitored for improving the contents. Action taken to improve contents includes removing work products that are not being used.

Activity 2g. Electronic catalogs or databases are methods the organization can use to provide reusable work products.

Attributes to Measure

- Usefulness of database of work products
- Usability of database of work products
- Use of database of work products
- Benefits of reuse of work products

Analyze competencies used and developed throughout the sourcing process.

<u>Rationale</u>: Maintain records about personnel competencies available to the organization and analyze these records to enable the organization to more quickly respond to future client inquiries and to better position its capabilities.

Accurate records of personnel competencies used in the organization supports the ability of the organization to adequately understand its capabilities and to effectively position those capabilities with new and existing clients.

The personnel competency inventory is initially built from personnel records (input from *ppl_over_4_2*, *ppl_over_6_2*).

Activities

1. Plan and provide the support for analyzing competencies used and developed throughout the sourcing process.
2. Analyze competencies used and developed throughout the sourcing process.
   a. Identify sources and classes of information about personnel competencies.
      1) Identify personnel (input from *ppl_over_4_2*).
      2) Identify personnel skills (input from *ppl_over_5_3*).
      3) Identify relevant knowledge held by personnel.
      4) Identify personnel experience.
   b. Gather and document information on competences in a personnel competency inventory (input from *ppl_over_4_2*, *ppl_over_5_3*).
   c. Update information on competences in a personnel competency inventory (input from *ppl_over_2_3, ppl_over_3_3, ppl_over_5_3*, ppl_pre_1_3).
   d. Communicate the competencies to relevant stakeholders.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a2. Skills include ability to deliver a particular service, ability to perform a particular task, and ability to use software applications.

Activity 2d. Personnel who require information on competencies include personnel preparing the response to client requirements, personnel developing plans for execution of the contract, and personnel planning to acquire competencies through recruiting (output to ops_pre_2_2).

Attributes to Measure

- Comprehensiveness of competencies captured
- Currency of captured competencies
- Accuracy of captured competencies

Analyze and use knowledge about clients and end-users.

Rationale: Analyze knowledge about clients and end-users to better understand client and end-user expectations and to be better prepared for effectively meeting client and end-user needs.

An understanding of clients and end-users can help the organization to identify opportunities for developing new services and markets in order to better meet the needs of current clients and to attract potential future clients.

Activities

1. Plan and provide the support for analyzing and using knowledge about clients and end-users.
2. Analyze and use knowledge about clients and end-users (output to org_over_12_3).
    a. Identify sources and classes of information and knowledge to be collected on clients and end-users.
        1) Identify client business drivers and objectives.
        2) Identify information about client use of service (input from km_over_8_3).
        3) Identify information about client culture.
    b. Gather and update knowledge about clients and end-users (output to *km_over_3_3*).
    c. Analyze knowledge about clients and end-users (output to org_pre_1_3, ppl_pre_1_3, ppl_exe_2_2, km_over_8_3, km_over_9_3).
        1) Analyze how the service supports and satisfies business goals.
        2) Analyze how the service is integrated with client business processes.
        3) Identify opportunities for improvement based on the findings (uses activities in *org_over_16_3*).
        4) Identify opportunities to develop new services and markets, and take action as appropriate.
        5) Identify opportunities to improve client relationships.
    d. Communicate the analyses, opportunities, and actions to take to relevant stakeholders.
    e. Provide knowledge about clients and end-users to relevant stakeholders.

3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2b. Methods to collect knowledge about clients and end-users include structured research, meetings with clients, participation in industry forums, and documenting the experiences of client interaction teams.

Activity 2e. Knowledge of clients and end-users is disseminated within the organization by providing access to specialized databases or through training. Tools and infrastructure used to disseminate knowledge include intranets, customer relationship management (CRM) applications, case repositories, knowledge management systems, and groupware.

Attributes to Measure

- Quality of knowledge about clients and end-users
- Status of actions taken
- Effectiveness of knowledge dissemination
- Benefits derived from use of knowledge about clients and end-users

Analyze and use feedback from clients and other stakeholders throughout the sourcing process.

<u>Rationale</u>: Obtain feedback from stakeholders on an ongoing basis to identify opportunities that can improve the organization's performance with existing and future clients.

Feedback from stakeholders can help the organization to identify opportunities to improve motivation and effectiveness of personnel, relationships with subcontractors and vendors, and satisfaction of clients.

This Practice expands on ops_post_3_2, which covers obtaining formal client feedback during contract completion. The focus of km_over_8_3 is expanded to not only cover feedback throughout the entire sourcing process, but also to include feedback of any relevant stakeholders (e.g., employees, subcontractors, vendors, and clients).

Activities

1. Plan and provide the support for analyzing and using feedback from clients and other stakeholders.
2. Analyze and use feedback from clients and other stakeholders.
   a. Identify attributes that require client and other stakeholder feedback.
      1) Identify attributes based on an analysis of organizational objectives (input from *org_over_1_3*).
      2) Identify attributes based on organizational reviews (input from *org_over_10_3*).
      3) Identify attributes based on information about clients (input from km_over_7_3).
   b. Identify designated times for obtaining feedback.
   c. Identify contact personnel, media, and methods for obtaining feedback from the client, end-users, and other stakeholders.
   d. Identify client personnel, end-users, and other stakeholders from whom to obtain feedback.
   e. Obtain feedback from identified client personnel, end-users, and other stakeholders.
   f. Analyze the obtained feedback (output to org_over_12_3, org_over_16_3, ops_over_6_3, km_over_4_3, km_over_7_3, km_over_9_3).
   g. Identify appropriate actions to be taken based on the feedback.
   h. Align the actions to be taken with organizational objectives (input from *org_over_1_3*).

i. Communicate the results of the feedback analysis and actions taken to relevant stakeholders.

j. Document the actions taken and tracking them to closure.

3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).

4. Verify consistency of implementation of the Practice across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a. Attributes on which feedback is required include:

- Precontract - clarity of negotiation topics, usability of pricing guidelines, perception of negotiated agreement (i.e., win/win).
- Contract execution - fulfillment of stated and implied needs, suitability of service provided, cultural fit, ability to meet service levels, efficiency and effectiveness of response to complaints, accessibility of the key service provider contact people, interaction experiences, and suggested improvements.
- Postcontract – effectiveness of transition and perception of clients and end-users about the organization and its ability to adapt to changing service level requirements

Activity 2g. Actions taken may be based on either positive or negative feedback. An example of an action taken on positive feedback is determining what worked well in one engagement and implementing it across the organization. An example of an action taken on negative feedback is to do root cause analysis on the problem and take corrective action on other engagements.

Attributes to Measure

- Quality of knowledge about stakeholders
- Effectiveness of knowledge dissemination
- Status of actions taken
- Benefits derived from use of knowledge about stakeholders

Analyze the perceptions that current and prospective clients have about the organization and its services.

Rationale: *Investigate client perceptions about the organization to identify opportunities that can improve the organization's performance or the perception of the organization's performance.*

An understanding of current and prospective client perceptions can help the organization to identify opportunities for developing new services and markets to better meet the needs of current clients and to attract potential future clients.

Activities

1. Plan and provide the support for analyzing the perceptions of current and prospective clients.
2. Analyze the perceptions that current and prospective clients have about the organization and its services (output to org_over_12_3).
   a. Identify sources and classes of information needed to analyze clients' perceptions.
      1) Identify organizational attributes to analyze based on organizational objectives and reviews (input from *org_over_1_3*, *org_over_10_3*).
      2) Identify organizational attributes to analyze based on client feedback (input from km_over_8_3).
      3) Identify sources of information for current clients (input from km_over_7_3).
      4) Identify sources of information for prospective clients (input from km_pre_1_3).
   b. Identify tools and methods to use to analyze the clients' perceptions of the identified attributes, developing or purchasing tools and methods as appropriate.
   c. Obtain information on the perceptions that current and prospective clients have about the organization and its services.
   d. Analyze the perceptions of current and prospective clients (output to ppl_pre_1_3).
      1) Identify opportunities for improvement based on the findings (uses activities in org_over_16_3).
      2) Identify opportunities to develop new services and markets.
      3) Identify opportunities to improve client relationships.
   e. Communicate the results of the analysis to relevant personnel.

3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a1. Organizational attributes may include ability to deliver services, technical resources and their ability, access to new technologies, human resources, experience and skill of staff, ability to meet performance standards, adaptability to changing requirements, ability to implement new technology, reputation, and pricing of services.

Activity 2a2. Attributes include satisfaction for services and drivers that influence client decisions about purchasing services.

Activity 2b. Methods and tools for obtaining information on the perceptions of current and prospective clients include mail, e-mail, web-based and telephone surveys; focus groups with key clients; interviews with prospects or clients lost to competitors; customer relationship management software; and statistical software applications.

Attributes to Measure

- Effectiveness of procedure for understanding client perceptions
- Return on investment of understanding client perceptions

Analyze and use market information about prospective clients.

<u>Rationale</u>: Analyze knowledge about prospective clients in order to understand their service expectations and needs and be better prepared to effectively meet client needs and position the organization's capabilities.

An understanding of prospective clients can help the organization to identify opportunities for developing new services and markets to better meet the needs of current clients and to attract potential future clients.

Activities

1. Plan and provide the support for analyzing and using market information about prospective clients.
2. Analyze and use market information about prospective clients (output to org_over_12_3).
   a. Identify sources and classes of market information needed to support organizational objectives (input from *org_over_1_3*).
      1) Identify prospective clients in the appropriate markets (output to km_over_9_3).
      2) Determine the type information needed for each prospective client.
   b. Gather and update market information.
   c. Gather and update information on prospective clients.
   d. Analyze information (output to org_pre_3, ppl_pre_1_3, km_over_8_3).
      1) Verify the accuracy of the gathered data.
      2) Identify opportunities to develop new services and markets, and take action as appropriate.
      3) Identify opportunities to develop new client relationships.
   e. Communicate the information and results of the analysis to appropriate personnel.
3. Periodically review the actions taken to implement the Practice (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
4. Verify consistency of implementation of the Practice, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 2a. Information to collect on prospective clients includes their industry market share, customers and existing service providers. Other information that can be used to determine the services a prospective client may need is to understand their competitive environment. This includes information on the client's competitive advantage, business objectives, competitors, threats and problems.

Activity 2d1. Verifying information may include determining credibility of sources and consistency of information.

Attributes to Measure

- Quality of market related information
- Market share and market share trends
- Benefits derived from the use of market knowledge

Establish and implement procedures to capture and analyze data on resources consumed during contract execution.

<u>Rationale</u>: Understand resource usage for current client engagements in order to better understand and control resource utilization and to accurately estimate and plan for the resources required for new client engagements.

An established procedure supports consistently understanding resource usage. This analysis is necessary for the organization to accurately estimate future resource usage and to appropriately balance resource needs while delivering services to existing clients.

Activities

1. Establish the procedures for capturing and analyzing data on resource consumption.
   a. Provide the support for establishing the data capture and analysis procedures.
   b. Document the data capture and analysis procedures. These procedures address:
      1) Describing the purpose for capturing and analyzing data on resource consumption.
      2) Identifying the resource data that needs to be captured, aggregated and analyzed (input from ops_exe_2_2, ops_exe_15_2).
      3) Identifying the methods used to capture, aggregate and analyze the identified resource data.
      4) Capturing information related to the effort and timeframe of the activities carried out for each client engagement (input from ops_exe_3_2 and ops_exe_16_2).
      5) Aggregating and analyzing the data captured.
      6) Identifying inefficiencies in resource utilization by comparing actual against planned utilization levels in service design, deployment, and delivery.
      7) Documenting instances of inefficient utilization of resources and tracking them to closure.
      8) Making available the data and results of the analysis to appropriate personnel (output to ops_exe_2_2, ops_exe_15_2, ops_post_1_2).

2. Implement the procedures for capturing and analyzing data on resource consumption.
   a. Provide the support for implementation of the data capture and analysis procedures.
   b. Communicate the procedures to the appropriate personnel.
   c. Capture and analyze data on resource consumption, according to the procedures.
3. Maintain the procedures for capturing and analyzing data on resource consumption and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2*).

Supplemental Information

Activity 1b2. Information related to effort and timeframe includes number of personnel used, duration of activity, and technology used (computers, storage devices, media, software).

Attributes to Measure

- Status of resource utilization information
- Currency of resource utilization information
- Integrity of resource utilization information
- Usefulness of resource utilization information

Establish and implement procedures to transfer to the client, during contract completion, the knowledge gained from the specific client engagement.

<u>Rationale</u>: Enable the client to understand important information about service delivery, improving the efficiency of the client and providing a basis for future relationships, by transferring knowledge needed by the client, or the client's designee, to deliver services after contract completion.

An established procedure is essential for the organization to be fully prepared to execute contract completion should the need arise. It also supports the organization's ability to consistently identify and transfer all knowledge that will be needed by the client to continue delivery of the service. Effective transfer of knowledge improves the satisfaction of the client and provides a basis for future relationships.

Activities

1. Establish the procedures for transferring knowledge to the client during contract completion.
   a. Provide the support for establishing the knowledge-transfer procedures.
   b. Document the knowledge-transfer procedures. These procedures address:
      1) Describing the purpose for transferring knowledge to the client during contract completion.
      2) Defining roles, responsibilities, and authorities of the personnel implementing the procedures (uses activities in *org_over_5_3*).
      3) Identifying the sources and classes of knowledge to be transferred to the client during contract completion.
         a) Identifying knowledge gained during the specific engagement
         b) Identifying from the contract, and other client agreements, classes of knowledge agreed to be transferred (input from org_pre_3_2).
         c) Determining, from the identified gained knowledge, the knowledge to transfer.
         d) Determining whether identified knowledge is the organization's intellectual property, and taking action as appropriate (input from ops_over_9_2).
      4) Identifying knowledge-transfer activities, especially activities covered in the contract (input from org_pre_3_2).
      5) Estimating the resources required, including the effort and timeframe required for each activity (input from km_exe_1_2).
      6) Planning the transfer of knowledge.

7) Determining dispute handling and escalation methods.

8) Communicating the plan and dispute handling methods to relevant stakeholders.

9) Transferring knowledge based on the plan.

10) Ensuring verification and accounting of knowledge transferred (input from ops_over_9_2, *km_over_3_3*).

11) Obtaining client acceptance of resources handed over.

2. Implement the procedures for transferring knowledge to the client during contract completion.
   a. Create a plan for implementing the procedures.
   b. Provide the support for implementation of the knowledge-transfer procedures.
   c. Communicate the procedures to the relevant stakeholders.
   d. Transfer knowledge to the client during contract completion, according to the procedures.
3. Maintain and verify the procedures for transferring knowledge to the client during contract completion.
   a. Maintain and periodically review the procedures and actions taken to implement the procedures (uses activities in *ops_over_2_2; input* from *org_over_7_3*).
   b. Verify consistency of implementation of the procedures across the organization, and take action as appropriate (uses activities in *org_over_10_3*).

Supplemental Information

Activity 1b3a. The knowledge gained may include various components such as business and technical requirements of clients and end-users, key problems and issues identified during requirement specification, service specification developed from client requirements, work instructions prepared for providing the service, quality specification developed based on client requirements of service level expectations, identified confidentiality and security requirements, contract-specific risks identified, identified contract-specific regulatory and statutory requirements, identified cultural attributes, identified personnel competencies needed for a specific contract, corrective and preventive actions that include client involvement, and a summary of client feedback. Ensure that the knowledge will aid in reducing the learning cycle for the client.

Activity 1b3c. This may include knowledge that may be useful to the client in maintaining the transitioned service at the desired service level, but is not specifically outlined in the contract. The organization may choose to transfer knowledge based on a strategic decision to improve the value-chain process (input from *org_over_1_3*).

Attributes to Measure

- Effectiveness of the transition of knowledge
- Status of transition activities

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Glossary

Activities	A section within a Practice that provides a list of activities to be performed to fulfill the intent of the Practice. At a minimum a service provider has to perform all the listed activities to implement the Practice.
Attributes to Measure	A section within a Practice that provides a recommended list of characteristics to be monitored and analyzed in order to effectively manage and control the performance of the Practice.
Benchmark	A standard against which measurements or comparisons can be made with the intent to improve capability.
Business Operations Element (ops)	Business Operations is an Organizational Element that refers to the coordination of organizational functions and resources, people, and technology, for the purpose of delivering a service to a client. The focus of Business Operations is on the design, deployment and delivery of services
Business Process Outsourcing (BPO)	Dataquest defines BPO as "the delegation of one or more IT-intensive business processes to an external provider that, in turn, owns, administrates and manages the selected process/processes, based upon defined and measurable performance metrics." [Gartner Group 00]
Capability	Process capability describes the range of expected results that can be achieved by following a process. The process capability of an organization provides one means of predicting the most likely outcomes to be expected from the next project the organization undertakes. [Paulk 93]
Capability Baseline	A description of the capability of the organization at a point in time. It is derived from the analysis of measures of performance used by the organization.
Capability Levels	The five Capability Levels of **e**^{scm} that describe an improvement path for a service provider, progressing from having the capability to deliver service that meets client requirements, up to the highest level, sustaining value enhancement through continuous innovation. The five levels of capability that define this path are: Level 1 – Initial, Level 2 – Performing to meet client requirements, Level 3 – Controlling through measurement, Level 4 – Enhancing through innovation, and Level 5 – Sustaining excellence.

Change Control	An element of configuration management, consisting of the evaluation, coordination, approval or disapproval, and implementation of changes to work products. [Paulk 93]
Client	An entity that obtains sourcing services from a service provider.
Client Interaction Team	A team of personnel from the service provider, ideally representing multiple functions, constituted to interact with the client. This team primarily understands and captures client requirements and positions the service provider's capabilities, before the contract is finalized. It also provides clarifications to the service design and deployment team and to the client during service design and deployment, as required.
Commitment	A pact that is freely assumed, visible, and expected to be kept by all parties. [Paulk 93]
Competency	The combination of experience, knowledge, and skills required to perform a task or role. Personnel competency is the competency of an individual employee. Workforce competency is the set of personnel competencies that exist in the organization.
Confidentiality	Restricting the use of information, service components, technology components, and work products solely to authorized stakeholders.
Contract Completion	When a contract is ended after the fulfillment of the contract obligations or expiration of the contract period. This includes termination (for cause or convenience) before the planned contract completion date.
Contract Execution Phase	The sourcing phase where client requirements are met through service delivery according to service levels agreed upon. This includes service design, deployment, delivery, and modification.
Cultural Attributes	Characteristics of the client and end-user that can impact the quality and acceptance of the service being delivered. Cultural attributes can be either national or corporate, such as ethnicity, language, and behavioral norms.
Cultural Fit	To address cultural differences between the client and the service provider to effectively deliver service according to agreed service levels.

Deployment	The process of acquiring or installing required infrastructure, including technology, and putting in place appropriately skilled people, based on the service design, in order to enable delivery of the desired service. This includes identifying, obtaining, preparing, and setting up necessary resources. Service deployment occurs before service delivery and after service design.
Engagement	The relationship between the service provider and a (prospective) client that spans the entire sourcing process.
Establish and Implement	To define, document, train personnel, provide resources and put to use a procedure or policy, with an aim of achieving intended outcomes.
Guidelines	An indication or outline, based on organizational policy or conduct that provides guidance for determining a course of action.
Input From	Practice B provides information or deliverables to Practice A. This is shown as an input link in the appropriate Activity in Practice A.
Institutionalization	The building of infrastructure and corporate culture that support methods, practices, and procedures so that they are the ongoing way of doing business, even after those who originally defined them are gone. [Paulk 93]
Intellectual Property	A form of property that cannot be seen or touched, and which comes into existence through some kind of creative efforts. [Burnett 98]
IT-enabled Sourcing Service	A type of sourcing service that uses information technology in the processing and delivery of the service. Services are delivered through a telecommunications or data network, or other electronic media.
Knowledge Management Element (km)	Knowledge management is a function in which a provider consciously and comprehensively gathers, organizes, refines, analyzes and disseminates its knowledge to further its objectives. Knowledge Management is an Organizational Element that provides the basis for controlling performance, organizational learning, and initiating improvements and innovations
Lessons Learned	Information obtained as a result of a “postmortem” valuation at the end of a project.
Organization	In the context of the **e**^{scm}, an organization is synonymous with a service provider.

Organizational Elements	IT-enabled sourcing service providers' operations are comprised of interdependent elements. The **e**[scm] addresses five Organizational Elements with respect to their contribution to the formation, management, and expansion of sourcing relationships. These are: Organizational Management, People, Business Operations, Technology, and Knowledge Management.
Organizational Management Element (org)	Organizational Management is an Organizational Element that provides direction, sets objectives, and establishes systems and procedures needed to achieve these objectives.
Output To	Practice B provides information or deliverables to Practice A. This is shown as an output link in the appropriate Activity in Practice B.
Outsourcing	An arrangement in which one company provides services for another company that could also be or usually have been provided in-house [TechTarget.com 01]
Overall Practices	**e**[scm] Practices that are defined for each Organizational Element and are ongoing and applicable across all phases of the sourcing process: Precontract, Contract Execution and Postcontract.
People Element (ppl)	The People Element is an Organizational Element focused on personnel policies and procedures, and ensuring that appropriately skilled people are available to provide services.
Personnel Competency	see Competency
Phase-specific Practices	**e**[scm] Practices that are defined for an Organizational Element, and are applicable in a specific phase of the sourcing process such as Precontract, Contract Execution or Postcontract.
Phases	The sourcing process is temporally divided into three parts: Precontract, Contract Execution, and Postcontract.
Policy	A guiding principle, typically established by the organization's leadership that is adopted by the organization to influence and determine decisions. [Paulk 93]
Postcontract Phase	The sourcing phase where, due to the completion of a contract, the service provider hands over to the client, or its designee, service delivery responsibility and service-related assets.

Practice	Component of the e^{scm} model defined for each Organizational Element. Service providers implement Practices to improve their capability to manage and expand relationships with their clients.
Practice Rating	The process of determining the effectiveness of implementation and institutionalization of an e^{scm} Practice. Data are collected and analyzed according to the e^{scm} determination methods.
Precontract Phase	The sourcing phase that involves activities performed until the contract between the service provider and the client are finalized, (e.g., understanding client requirements, negotiating deliverables, and assessing internal capabilities). Precontract Phase includes requirement management and contract finalization.
Procedure	A documented description of an approach to be taken to perform a defined set of tasks required for achieving an intended result. [Paulk 93]
Process	(1) A sequence of steps performed for a given purpose; for example, the software development process [IEEE-STD-610.12-1990]. (2) A set of interrelated or interacting activities which transforms inputs into outputs [ISO 9000:2000].
Program	A set of actions or projects initiated with defined resource commitments and timelines for completion that an organization implements to achieve a defined organizational objective.
Quality Specification	The quality specification is a document, created as part of service design, which describes the quality attributes to be monitored and the service levels that have been agreed for each of those attributes.
Rationale	A brief explanation of the purpose for a Practice and the expected benefits (to the service provider and/or client) achieved by performing the Practice.
Requirement	(1) A condition or capability needed by a user to solve a problem or achieve an objective. (2) A condition or capability that must be met or possessed by a product or product component to satisfy a contract, standard, specification, or other formally imposed documents. (3) A documented representation of a condition or capability as in (1) or (2). [IEEE 610.12-1990]

Service Component	Service components are any items that are used in the delivery of service. Components can include specific user interfaces, customized software, data storage mechanisms, work instructions, process specifications, quality specifications, and security mechanisms. These components can change during the delivery of service. A service component is a type of work product.
Service Levels	The performance values expected for service delivery during an engagement. For example, bandwidth availability, response times for routine and ad hoc queries, response time for problem resolution such as network downtime and machine failure, and client satisfaction levels.
Service Provider	An entity that provides IT-enabled sourcing services to a client. The service provider has business functions and administration separate from the client.
Sourcing	Sourcing includes outsourcing but covers a broader range of relationships than traditional outsourcing, including in-sourcing.
Sourcing Process	The sourcing process has phase-specific activities for three temporal Phases (Precontract, Contract Execution, and Postcontract) and Overall activities that are ongoing throughout the entire sourcing process.
Stakeholders	A group of individuals who are affected by, or are in some way accountable for, the outcome of an undertaking. It is comprised of clients, business partners, shareholders, employees of an organization, and subcontractors and vendors.
Subcontractors	An individual, partnership, corporation, or association that contracts with a service provider (that is, the prime contractor) to design, develop, and/or deploy a service or part thereof. [Paulk 93]
Supplemental Information	A section within a Practice that provides explanatory information that is intended to help convey the intent of the activities and provide examples of how those activities could be implemented.

Support Activities	Support functions include, but are not limited to, accounting, human resources, information systems, sales and marketing, and quality control. Support activities performed by these functions include verifying the implementation of procedures and programs, operational improvement, research and development, improving the physical environment, and monitoring personnel performance.
Technology Element (tech)	The Technology Element is an Organizational Element concerned with the technology infrastructure for service-related and support activities.
Transition	Process of transfer of responsibility for providing the personnel, and/or technology, and other infrastructures.
Uses Activities In	A phrase used within activities to show a relationship to activities in another Practice. If an activity in Practice A shows a relationship reference "(uses activities in Practice B)", this indicates that all of the activities detailed in Practice B are used to perform that activity in Practice A.
Vendor	An individual, partnership, corporation, or association that contracts with a service provider to deliver a product or service, (e.g., software, hardware, equipment, or miscellaneous items).
Verification	The process of ensuring that activities are performed in compliance with the process that has been established or that service commitments are being satisfied. Verification typically encompasses review and audits by management or designated personnel.
Version Control	An informal level of configuration management, in which a work product is changed in a controlled manner and the version of the work product in use at a given time (past or present) is known. [SW-CMM v2C]
Work products	Any document, artifact, item, product, or piece of information that serves as an input to, or is produced as an output from, any process or activity in the organization. Examples include software code, service specifications, and project plans. (See Service Components.)
Workforce Competency	see Competency

Appendix A.

Comparison of Coverage with other Quality Models

Coverage[35] of **e**^{scm} compared to other quality models is shown in the next page. The following points summarize the major similarities and difference of **e**^{scm} with other quality models:

- The highest overlap is in service design of the contract execution activities.
- Gaps addressed by **e**^{scm} are:
    - Activities that lead to the formation of outsourcing relationship;
    - The service deployment and delivery activities; and
    - Activities that happen after the completion or termination of a contract.
- **e**^{scm} defines a balanced level of structure that is adaptable to the dynamic nature of the IT-eos – neither too flexible/generic nor too rigid/specific.

The shaded areas in this matrix indicate practices from the **e**^{scm} that are not in scope for the other quality models.

[35] The comparative coverage was reviewed by authors of the SW-CMM, P-CMM, and by ISO auditors.

eSCM Coverage Matrix

OVERALL

	I9	MB	SW	CI	PC
Org. Mgmt.					
org_over_1_3	1	2	1	1	2
org_over_2_2	0	1	0	1	0
org_over_3_2	0	2	1	2	0
org_over_4_2	2	1	2	2	2
org_over_5_3	2	0	2	2	2
org_over_6_4	2	2	1	1	2
org_over_7_3	2	2	2	2	2
org_over_8_4	2	2	2	2	2
org_over_9_4	0	2	1	1	2
org_over_10_3	2	1	2	2	2
org_over_11_4	1	1	1	1	2
org_over_12_3	1	2	0	0	0
org_over_13_2	0	0	0	0	0
org_over_14_3	0	2	1	1	0
org_over_15_4	0	1	0	0	0
org_over_16_3	2	2	2	2	2
People					
ppl_over_1_4	0	2	1	1	1
ppl_over_2_3	1	2	1	1	2
ppl_over_3_3	1	2	2	1	2
ppl_over_4_2	2	0	1	1	2
ppl_over_5_3	1	1	2	2	2
ppl_over_6_2	2	2	2	2	2
ppl_over_7_2	2	2	1	1	2
ppl_over_8_3	0	2	0	0	2
ppl_over_9_3	0	1	1	2	2
ppl_over_10_3	0	1	0	1	2
ppl_over_11_3	0	2	0	0	2
ppl_over_12_2	1	0	1	1	1
ppl_over_13_4	2	2	1	1	2
Bus. Ops.					
ops_over_1_2	2	1	2	2	2
ops_over_2_2	2	2	1	1	1
ops_over_3_2	2	0	2	2	0
ops_over_4_2	2	0	2	2	0
ops_over_5_2	2	0	1	1	0
ops_over_6_3	2	2	2	2	1
ops_over_7_4	2	2	2	2	1
ops_over_8_2	0	0	1	1	0
ops_over_9_2	0	0	0	0	0
ops_over_10_2	2	1	0	1	2
Technology					
tech_over_1_2	2	1	1	1	0
tech_over_2_2	0	0	0	0	0
tech_over_3_2	0	0	1	1	0
tech_over_4_2	0	0	0	0	0
tech_over_5_4	0	2	2	2	0
Know. Mgmt.					
km_over_1_4	0	2	0	1	2
km_over_2_2	1	2	1	1	2
km_over_3_3	0	1	1	1	1
km_over_4_3	0	0	1	1	0
km_over_5_3	0	0	1	1	2
km_over_6_3	0	0	0	0	2
km_over_7_3	1	2	0	1	0
km_over_8_3	2	1	2	2	1
km_over_9_3	1	2	0	0	0

PRECONTRACT

	I9	MB	SW	CI	PC
Org. Mgmt.					
org_pre_1_3	0	0	0	0	0
org_pre_2_2	0	0	0	0	0
org_pre_3_2	1	0	1	1	0
People					
ppl_pre_1_3	1	0	1	1	1
ppl_pre_2_2	0	0	0	0	1
Bus. Ops.					
ops_pre_1_2	2	2	2	2	0
ops_pre_2_2	2	0	1	1	1
ops_pre_3_2	2	0	0	0	0
ops_pre_4_2	0	0	0	0	0
ops_pre_5_2	1	0	1	2	2
Know. Mgmt.					
km_pre_1_3	0	1	0	0	0

CONTRACT EXECUTION

	I9	MB	SW	CI	PC
Org. Mgmt.					
org_exe_1_2	1	0	2	1	1
org_exe_2_3	0	1	0	0	1
org_exe_3_2	0	1	2	2	0
People					
ppl_exe_1_2	1	0	2	2	2
ppl_exe_2_2	0	0	0	0	1
Bus. Ops.					
ops_exe_1_3	1	2	2	2	1
ops_exe_2_2	2	0	2	2	0
ops_exe_3_2	2	0	2	2	0
ops_exe_4_2	2	0	2	2	0
ops_exe_5_2	0	2	2	2	0
ops_exe_6_3	0	1	0	0	0
ops_exe_7_2	0	2	2	2	0
ops_exe_8_2	2	0	0	0	1
ops_exe_9_2	2	2	2	2	1
ops_exe_10_2	2	0	2	2	0
ops_exe_11_2	1	1	2	2	0
ops_exe_12_2	0	0	0	0	0
ops_exe_13_3	2	2	2	2	0
ops_exe_14_2	0	0	1	1	0
ops_exe_15_2	2	2	2	2	0
ops_exe_16_2	0	2	2	2	0
Technology					
tech_exe_1_2	0	0	0	0	0
tech_exe_2_3	0	1	0	0	0
Know. Mgmt.					
km_exe_1_2	1	0	2	2	1

POSTCONTRACT

	I9	MB	SW	CI	PC
People					
ppl_post_1_2	0	0	0	0	2
Bus. Ops.					
ops_post_1_2	1	0	0	0	1
ops_post_2_3	0	0	0	0	0
ops_post_3_2	2	1	0	0	0
Know. Mgmt.					
km_post_1_4	0	0	0	0	0

Legend

Rating Key

0	Not in scope
1	No direct coverage
2	covered / addressed

Models Compared

I9	ISO 9001: 2000
MB	Baldrige Quality Program 2002
SW	Software CMM version 1.1
CI	CMM Integration version 1.1
PC	People CMM version 2.0

Appendix B.

Practices by Capability Levels and Phases

Practices listed by Level

LEVEL 2

ID	Practice
org_over_2_2	Establish and implement policies on security, confidentiality and protection of intellectual property.
org_over_3_2	Establish and implement a policy on risk management.
org_over_4_2	Identify and provide adequate resources for performing service-related and support activities.
org_over_13_2	Establish and implement disaster recovery procedures.
org_pre_2_2	Establish guidelines for pricing services.
org_pre_3_2	Establish and implement procedures to create and amend contracts.
org_exe_1_2	Establish and implement procedures to communicate the client's requirements from the client interaction team to the service design and deployment team.
org_exe_3_2	Identify, assess and manage risks specific to executing the contract.
ppl_over_4_2	Assign roles and responsibilities to personnel based on appropriate personnel competencies.
ppl_over_6_2	Meet identified personnel competency needs by providing training.
ppl_over_7_2	Establish and maintain a work environment that enables personnel to work effectively.
ppl_over_12_2	Assign a team to interact with the client.
ppl_pre_2_2	Assign a team to negotiate with clients.
ppl_exe_1_2	Assign a team to design and deploy the service according to client requirements.
ppl_exe_2_2	Establish and implement procedures to manage the transfer of personnel and skills from the client during transition and contract execution.
ppl_post_1_2	Establish and implement procedures to manage the transfer of personnel and skills to the client during contract completion.
ops_over_1_2	Define and communicate engagement objectives.
ops_over_2_2	Establish and implement procedures to measure and verify that process and service commitments are satisfied.
ops_over_3_2	Establish and implement procedures to select subcontractors and vendors based on their ability to meet identified requirements.
ops_over_4_2	Monitor the performance of subcontractors and vendors against their commitments, and take appropriate action.
ops_over_5_2	Establish and implement procedures to document interactions with clients.

ops_over_8_2	Establish and implement procedures to meet security and confidentiality requirements.
ops_over_9_2	Establish and implement procedures to protect the intellectual property of stakeholders, as appropriate.
ops_over_10_2	Establish and implement procedures to comply with statutory and regulatory requirements.
ops_pre_1_2	Establish and implement procedures to gather a client's requirements.
ops_pre_2_2	Prior to committing to the prospective client, review requirements and ensure that the organization can meet them.
ops_pre_3_2	Establish and implement procedures to respond to the requirements of a prospective client.
ops_pre_4_2	Prior to and during negotiation, identify topics requiring client agreement.
ops_pre_5_2	Define the roles and responsibilities of the organization and the client with respect to the proposed contract.
ops_exe_2_2	Develop a plan to design and deploy the service.
ops_exe_3_2	Track service design and deployment activities against the plan at designated intervals.
ops_exe_4_2	Develop the service specification.
ops_exe_5_2	Design the service based on the service specification.
ops_exe_7_2	Establish and implement procedures to obtain feedback from the client on the designed service, and to incorporate necessary changes.
ops_exe_8_2	Establish and implement procedures to verify and account for resources transferred from the client to the organization.
ops_exe_9_2	Establish and implement procedures to monitor service quality based on the quality specification, and take corrective action as appropriate.
ops_exe_10_2	Establish and implement procedures to apply version control and change control to the service components.
ops_exe_11_2	Establish and implement procedures to make modifications to services.
ops_exe_12_2	Establish and implement procedures to train clients and end-users, as appropriate.
ops_exe_14_2	Deploy the service based on the design.
ops_exe_15_2	Plan and deliver the service according to the service design.
ops_exe_16_2	Track the service delivery activities against the delivery plan, and take corrective action as appropriate.
ops_post_1_2	Establish and implement procedures to hand over resources during contract completion.
ops_post_3_2	Obtain and analyze client feedback during contract completion.
tech_over_1_2	Establish and implement procedures to acquire, deploy, and upgrade technology.
tech_over_2_2	Establish and implement procedures to manage the security of the technology infrastructure.

tech_over_3_2	Establish and implement procedures to track and control changes in the technology infrastructure.
tech_over_4_2	Establish and implement procedures to manage technology licenses.
tech_exe_1_2	Establish and implement procedures to integrate an organization's technology infrastructure with that of the client, as appropriate.
km_over_2_2	Identify, control, and provide the information required to perform service-related and support activities.
km_exe_1_2	Establish and implement procedures to capture and analyze data on resources consumed during contract execution.

LEVEL 3

ID	Practice
org_over_1_3	Define and communicate organizational objectives.
org_over_5_3	Define and communicate the roles, responsibilities, and authority of personnel in the organization.
org_over_7_3	Establish and implement procedures to capture and analyze performance measures.
org_over_10_3	Establish and implement procedures to periodically review the organization's performance.
org_over_12_3	Establish and implement procedures to manage client relationships.
org_over_14_3	Establish and implement procedures to manage risks across client engagements.
org_over_16_3	Make improvements based on reviews of organizational performance.
org_pre_1_3	Establish guidelines for negotiations with current or prospective clients.
org_exe_2_3	Identify cultural attributes that impact the service and implement actions to achieve a cultural fit.
ppl_over_2_3	Identify the workforce competencies needed to achieve organizational objectives.
ppl_over_5_3	Establish and implement procedures to plan and deliver training.
ppl_over_8_3	Establish and implement a policy to provide personnel with opportunities for career development.
ppl_over_9_3	Establish and implement a policy on the participation of personnel in decisions that affect their work commitments.
ppl_over_10_3	Establish and implement procedures to appraise individual and team performance.
ppl_over_11_3	Establish and implement a reward program that encourages the achievement of organizational objectives.
ppl_over_3_3	Develop the workforce competencies needed to achieve organizational objectives.
ppl_pre_1_3	Assign a team to understand the prospective client's requirements and position the organization's capabilities.
ops_over_6_3	Establish and implement procedures to prevent reoccurrence of identified problems.
ops_exe_1_3	Establish and implement procedures to design and deploy the service to meet client requirements.
ops_exe_6_3	Establish and implement procedures to respond to potential failures in the delivery of service.
ops_exe_13_3	Establish and implement procedures to review and verify the service design.

ops_post_2_3	Establish and implement procedures to ensure the continuity of service during contract completion.
tech_exe_2_3	Optimize the overall performance of the technology infrastructure needed to deliver all services.
km_over_3_3	Establish and implement a knowledge system to identify, control and disseminate information.
km_over_4_3	Analyze and use knowledge gained from client engagements.
km_over_5_3	Identify and reuse work products.
km_over_6_3	Analyze competencies used and developed throughout the outsourcing process.
km_over_7_3	Analyze and use knowledge about clients and end-users.
km_over_8_3	Analyze and use feedback from clients and other stakeholders throughout the outsourcing process.
km_over_9_3	Analyze the perceptions that current and prospective clients have about the organization and its services.
km_pre_1_3	Analyze and use market information about prospective clients.

LEVEL 4

ID	Practice
org_over_6_4	Establish and implement programs to achieve organizational objectives.
org_over_8_4	Define capability baselines for the organization by analyzing performance data.
org_over_9_4	Benchmark organizational performance against comparative data from external and internal sources.
org_over_11_4	Establish and implement procedures to verify whether organizational programs are being executed as planned.
org_over_15_4	Proactively identify value creation opportunities and communicate them to the client.
ppl_over_1_4	Establish and implement a policy to encourage and support innovation and entrepreneurship across the organization.
ppl_over_13_4	Analyze the effectiveness of the training in achieving its intended objectives.
ops_over_7_4	Proactively identify potential problems and implement actions to preclude their occurrence.
tech_over_5_4	Establish and implement procedures to proactively identify and introduce appropriate technology.
km_over_1_4	Establish and implement a policy to share knowledge among stakeholders.
km_post_1_4	Establish and implement procedures to transfer to the client, during contract completion, the knowledge gained from the specific client engagement.

Practices listed by Phase

Overall

ID	Practice
org_over_1_3	Define and communicate organizational objectives.
org_over_2_2	Establish and implement policies on security, confidentiality and protection of intellectual property.
org_over_3_2	Establish and implement a policy on risk management.
org_over_4_2	Identify and provide adequate resources for performing service-related and support activities.
org_over_5_3	Define and communicate the roles, responsibilities, and authority of personnel in the organization.
org_over_6_4	Establish and implement programs to achieve organizational objectives.
org_over_7_3	Establish and implement procedures to capture and analyze performance measures.
org_over_8_4	Define capability baselines for the organization by analyzing performance data.
org_over_9_4	Benchmark organizational performance against comparative data from external and internal sources.
org_over_10_3	Establish and implement procedures to periodically review the organization's performance.
org_over_11_4	Establish and implement procedures to verify whether organizational programs are being executed as planned.
org_over_12_3	Establish and implement procedures to manage client relationships.
org_over_13_2	Establish and implement disaster recovery procedures.
org_over_14_3	Establish and implement procedures to manage risks across client engagements.
org_over_15_4	Proactively identify value creation opportunities and communicate them to the client.
org_over_16_3	Make improvements based on reviews of organizational performance.
ppl_over_1_4	Establish and implement a policy to encourage and support innovation and entrepreneurship across the organization.
ppl_over_2_3	Identify the workforce competencies needed to achieve organizational objectives.
ppl_over_3_3	Develop the workforce competencies needed to achieve organizational objectives.
ppl_over_4_2	Assign roles and responsibilities to personnel based on appropriate personnel competencies.
ppl_over_5_3	Establish and implement procedures to plan and deliver training.
ppl_over_6_2	Meet identified personnel competency needs by providing training.
ppl_over_7_2	Establish and maintain a work environment that enables personnel to work

effectively.

ppl_over_8_3	Establish and implement a policy to provide personnel with opportunities for career development.
ppl_over_9_3	Establish and implement a policy on the participation of personnel in decisions that affect their work commitments.
ppl_over_10_3	Establish and implement procedures to appraise individual and team performance.
ppl_over_11_3	Establish and implement a reward program that encourages the achievement of organizational objectives.
ppl_over_12_2	Assign a team to interact with the client.
ppl_over_13_4	Analyze the effectiveness of the training in achieving its intended objectives.
ops_over_1_2	Define and communicate engagement objectives.
ops_over_2_2	Establish and implement procedures to measure and verify that process and service commitments are satisfied.
ops_over_3_2	Establish and implement procedures to select subcontractors and vendors based on their ability to meet identified requirements.
ops_over_4_2	Monitor the performance of subcontractors and vendors against their commitments, and take appropriate action.
ops_over_5_2	Establish and implement procedures to document interactions with clients.
ops_over_6_3	Establish and implement procedures to prevent reoccurrence of identified problems.
ops_over_7_4	Proactively identify potential problems and implement actions to preclude their occurrence.
ops_over_8_2	Establish and implement procedures to meet security and confidentiality requirements.
ops_over_9_2	Establish and implement procedures to protect the intellectual property of stakeholders, as appropriate.
ops_over_10_2	Establish and implement procedures to comply with statutory and regulatory requirements.
tech_over_1_2	Establish and implement procedures to acquire, deploy, and upgrade technology.
tech_over_2_2	Establish and implement procedures to manage the security of the technology infrastructure.
tech_over_3_2	Establish and implement procedures to track and control changes in the technology infrastructure.
tech_over_4_2	Establish and implement procedures to manage technology licenses.
tech_over_5_4	Establish and implement procedures to proactively identify and introduce appropriate technology.
km_over_1_4	Establish and implement a policy to share knowledge among stakeholders.
km_over_2_2	Identify, control, and provide the information required to perform service-related and support activities.

km_over_3_3 Establish and implement a knowledge system to identify, control and disseminate information.

km_over_4_3 Analyze and use knowledge gained from client engagements.

km_over_5_3 Identify and reuse work products.

km_over_6_3 Analyze competencies used and developed throughout the outsourcing process.

km_over_7_3 Analyze and use knowledge about clients and end-users.

km_over_8_3 Analyze and use feedback from clients and other stakeholders throughout the outsourcing process.

km_over_9_3 Analyze the perceptions that current and prospective clients have about the organization and its services.

Precontract

org_pre_1_3 Establish guidelines for negotiations with current or prospective clients.

org_pre_2_2 Establish guidelines for pricing services.

org_pre_3_2 Establish and implement procedures to create and amend contracts.

ppl_pre_1_3 Assign a team to understand the prospective client's requirements and position the organization's capabilities.

ppl_pre_2_2 Assign a team to negotiate with clients.

ops_pre_1_2 Establish and implement procedures to gather a client's requirements.

ops_pre_2_2 Prior to committing to the prospective client, review requirements and ensure that the organization can meet them.

ops_pre_3_2 Establish and implement procedures to respond to the requirements of a prospective client.

ops_pre_4_2 Prior to and during negotiation, identify topics requiring client agreement.

ops_pre_5_2 Define the roles and responsibilities of the organization and the client with respect to the proposed contract.

km_pre_1_3 Analyze and use market information about prospective clients.

Contract Execution

org_exe_1_2 Establish and implement procedures to communicate the client's requirements from the client interaction team to the service design and deployment team.

org_exe_2_3 Identify cultural attributes that impact the service and implement actions to achieve a cultural fit.

org_exe_3_2 Identify, assess and manage risks specific to executing the contract.

ppl_exe_1_2 Assign a team to design and deploy the service according to client requirements.

ppl_exe_2_2	Establish and implement procedures to manage the transfer of personnel and skills from the client during transition and contract execution.
ops_exe_1_3	Establish and implement procedures to design and deploy the service to meet client requirements.
ops_exe_2_2	Develop a plan to design and deploy the service.
ops_exe_3_2	Track service design and deployment activities against the plan at designated intervals.
ops_exe_4_2	Develop the service specification.
ops_exe_5_2	Design the service based on the service specification.
ops_exe_6_3	Establish and implement procedures to respond to potential failures in the delivery of service.
ops_exe_7_2	Establish and implement procedures to obtain feedback from the client on the designed service, and to incorporate necessary changes.
ops_exe_8_2	Establish and implement procedures to verify and account for resources transferred from the client to the organization.
ops_exe_9_2	Establish and implement procedures to monitor service quality based on the quality specification, and take corrective action as appropriate.
ops_exe_10_2	Establish and implement procedures to apply version control and change control to the service components.
ops_exe_11_2	Establish and implement procedures to make modifications to services.
ops_exe_12_2	Establish and implement procedures to train clients and end-users, as appropriate.
ops_exe_13_3	Establish and implement procedures to review and verify the service design.
ops_exe_14_2	Deploy the service based on the design.
ops_exe_15_2	Plan and deliver the service according to the service design.
ops_exe_16_2	Track the service delivery activities against the delivery plan, and take corrective action as appropriate.
tech_exe_1_2	Establish and implement procedures to integrate an organization’s technology infrastructure with that of the client, as appropriate.
tech_exe_2_3	Optimize the overall performance of the technology infrastructure needed to deliver all services.
km_exe_1_2	Establish and implement procedures to capture and analyze data on resources consumed during contract execution.

<u>Postcontract</u>

ppl_post_1_2	Establish and implement procedures to manage the transfer of personnel and skills to the client during contract completion.
ops_post_1_2	Establish and implement procedures to hand over resources during contract completion.
ops_post_2_3	Establish and implement procedures to ensure the continuity of service during contract completion.
ops_post_3_2	Obtain and analyze client feedback during contract completion.
km_post_1_4	Establish and implement procedures to transfer to the client, during contract completion, the knowledge gained from the specific client engagement.

Appendix C

Relationship of e^scm Practices, Version 1.0 to Version 1.1

Change	Old ID	New ID	New Wording
Changed levels	Org_Over_1	org_over_1_3	Define and communicate organizational objectives.
Major wording change	Org_Over_11	org_over_2_2	Establish and implement policies on security, confidentiality and protection of intellectual property.
Changed levels	Org_Over_10	org_over_3_2	Establish and implement a policy on risk management.
Changed levels	Org_Over_6	org_over_4_2	Identify and provide adequate resources for performing service-related and support activities.
None	Org_Over_2	org_over_5_3	Define and communicate the roles, responsibilities, and authority of personnel in the organization.
Small wording change	Org_Over_3	org_over_6_4	Establish and implement programs to achieve organizational objectives.
Changed element; Small wording change	KM_Over_1	org_over_7_3	Establish and implement procedures to capture and analyze performance measures.
Changed element	KM_Over_2	org_over_8_4	Define capability baselines for the organization by analyzing performance data.
Changed element; Small wording change	KM_Over_4	org_over_9_4	Benchmark organizational performance against comparative data from external and internal sources.
Small wording change	Org_Over_4	org_over_10_3	Establish and implement procedures to periodically review the organization's performance.
Small wording change	Org_Over_12	org_over_11_4	Establish and implement procedures to verify whether organizational programs are being executed as planned.
Small wording change; Changed levels	Org_Over_7	org_over_12_3	Establish and implement procedures to manage client relationships.
Changed element; Small wording change	Tech_Over_5	org_over_13_2	Establish and implement disaster recovery procedures.
Major wording change; Changed phase	Org_Exe_3	org_over_14_3	Establish and implement procedures to manage risks across client engagements.

Change	Old ID	New ID	New Wording
New practice		org_over_15_4	Proactively identify value creation opportunities and communicate them to the client.
Deleted due to overlap	KM_Exe_1	org_over_15_4	
Changed level; Small wording change	Org_Over_5	org_over_16_3	Make improvements based on reviews of organizational performance.
Small wording change	Org_Pre_1	org_pre_1_3	Establish guidelines for negotiations with current or prospective clients.
Small wording change; Changed phase; Changed element	Org_Pre_2	org_pre_2_2	Establish guidelines for pricing services.
Small wording change	Org_Pre_3	org_pre_3_2	Establish and implement procedures to create and amend contracts.
Small wording change	Org_Exe_1	org_exe_1_2	Establish and implement procedures to communicate the client's requirements from the client interaction team to the service design and deployment team.
Small wording change	Org_Exe_2	org_exe_2_3	Identify cultural attributes that impact the service and implement actions to achieve a cultural fit.
Changed phase; Changed element; Small wording change	Ops_Pre_2	org_exe_3_2	Identify, assess and manage risks specific to executing the contract.
Major wording change	Ppl_Over_11	ppl_over_1_4	Establish and implement a policy to encourage and support innovation and entrepreneurship across the organization.
Small wording change	Ppl_Over_1	ppl_over_2_3	Identify the workforce competencies needed to achieve organizational objectives.
Small wording change	Ppl_Over_2	ppl_over_3_3	Develop the workforce competencies needed to achieve organizational objectives.
Major wording change	Ppl_Over_3	ppl_over_4_2	Assign roles and responsibilities to personnel based on personnel competencies.
Deleted due to overlap	Ppl_Exe_2	ppl_over_4_2	
New practice		ppl_over_5_3	Establish and implement procedures to plan and deliver training.
Major wording change	Ppl_Over_4	ppl_over_6_2	Meet identified personnel competency needs by providing training.
None	Ppl_Over_6	ppl_over_7_2	Establish and maintain a work environment that enables personnel to work effectively.

Change	Old ID	New ID	New Wording
Changed levels; Small wording change	Ppl_Over_7	ppl_over_8_3	Establish and implement a policy to provide personnel with opportunities for career development.
Major wording change	Ppl_Over_8	ppl_over_9_3	Establish and implement a policy on the participation of personnel in decisions that affect their work commitments.
Small wording change	Ppl_Over_13	ppl_over_10_3	Establish and implement procedures to appraise individual and team performance.
Small wording change	Ppl_Over_9	ppl_over_11_3	Establish and implement a reward program that encourages the achievement of organizational objectives.
New practice		ppl_over_12_2	Assign a team to interact with the client.
Small wording change; Changed level	Ppl_Over_5	ppl_over_13_4	Analyze the effectiveness of the training in achieving its intended objectives.
Changed levels; Small wording change	Ppl_Pre_1	ppl_pre_1_3	Assign a team to understand the prospective client's requirements and position the organization's capabilities.
Small wording change	Ppl_Pre_2	ppl_pre_2_2	Assign a team to negotiate with clients.
Small wording change	Ppl_Exe_1	ppl_exe_1_2	Assign a team to design and deploy the service according to client requirements.
New practice		ppl_exe_2_2	Establish and implement procedures to manage the transfer of personnel and skills from the client during transition and contract execution.
Major wording change	Ppl_Post_1	ppl_post_1_2	Establish and implement procedures to manage the transfer of personnel and skills to the client during contract completion.
New practice		ops_over_1_2	Define and communicate engagement objectives.
Changed levels; Small wording change; Changed element	Org_Over_13	ops_over_2_2	Establish and implement procedures to measure and verify that process and service commitments are satisfied.
Small wording change	Ops_Over_1	ops_over_3_2	Establish and implement procedures to select subcontractors and vendors based on their ability to meet identified requirements.
Deleted due to overlap	Ops_Exe_4	ops_over_3_2	
None	Ops_Over_2	ops_over_4_2	Monitor the performance of subcontractors and vendors against their commitments, and take appropriate action.
Small wording change	Ops_Over_3	ops_over_5_2	Establish and implement procedures to document interactions with clients.

Change	Old ID	New ID	New Wording
Small wording change	Ops_Over_4	ops_over_6_3	Establish and implement procedures to prevent reoccurrence of identified problems.
Small wording change	Ops_Over_5	ops_over_7_4	Proactively identify potential problems and implement actions to preclude their occurrence.
Major wording change	Ops_Over_6	ops_over_8_2	Establish and implement procedures to meet security and confidentiality requirements.
New practice		ops_over_9_2	Establish and implement procedures to protect the intellectual property of stakeholders, as appropriate.
Changed phase, Small wording change	Ops_Pre_3	ops_over_10_2	Establish and implement procedures to comply with statutory and regulatory requirements.
Small wording change	Ops_Pre_1	ops_pre_1_2	Establish and implement procedures to gather a client's requirements.
Major wording change	Ops_Pre_5	ops_pre_2_2	Prior to committing to the prospective client, review requirements and ensure that the organization can meet them.
Small wording change	Ops_Pre_6	ops_pre_3_2	Establish and implement procedures to respond to the requirements of a prospective client.
Major wording change	Ops_Pre_7	ops_pre_4_2	Prior to and during negotiation, identify topics requiring client agreement.
Small wording change	Ops_Pre_4	ops_pre_5_2	Define the roles and responsibilities of the organization and the client with respect to the proposed contract.
None	Ops_Exe_1	ops_exe_1_3	Establish and implement procedures to design and deploy the service to meet client requirements.
Small wording change	Ops_Exe_3	ops_exe_2_2	Develop a plan to design and deploy the service.
Changed order	Ops_Exe_6	ops_exe_3_2	Track service design and deployment activities against the plan at designated intervals.
Small wording change	Ops_Exe_2	ops_exe_4_2	Develop the service specification.
Split into multiple practices	Ops_Exe_5	ops_exe_5_2	Design the service based on the service specification.
Merged into new, combined practice	Ops_Exe_8	ops_exe_5_2	
Merged into new, combined practice	Ops_Exe_7	ops_exe_5_2	
Major wording change	Ops_Exe_9	ops_exe_6_3	Establish and implement procedures to respond to potential failures in the delivery of service.

Change	Old ID	New ID	New Wording
Small wording change	Ops_Exe_11	ops_exe_7_2	Establish and implement procedures to obtain feedback from the client on the designed service, and to incorporate necessary changes.
None	Ops_Exe_13	ops_exe_8_2	Establish and implement procedures to verify and account for resources transferred from the client to the organization.
Merged into new, combined practice; Major wording change	Ops_Exe_16	ops_exe_9_2	Establish and implement procedures to monitor service quality based on the quality specification, and take corrective action as appropriate.
Merged into new, combined practice	Ops_Exe_17	ops_exe_9_2	
Major wording change	Ops_Exe_19	ops_exe_10_2	Establish and implement procedures to apply version control and change control to the service components.
Small wording change	Ops_Exe_20	ops_exe_11_2	Establish and implement procedures to make modifications to services.
Small wording change	Ops_Exe_21	ops_exe_12_2	Establish and implement procedures to train clients and end-users, as appropriate.
Merged into new, combined practice	Ops_Exe_10	ops_exe_13_3	Establish and implement procedures to review and verify the service design.
Merged into new, combined practice	Ops_Exe_12	ops_exe_13_3	
Split into multiple practices	Ops_Exe_5	ops_exe_14_2	Deploy the service based on the design.
Major wording change	Ops_Exe_14	ops_exe_15_2	Plan and deliver the service according to the service design.
Small wording change	Ops_Exe_15	ops_exe_16_2	Track the service delivery activities against the delivery plan, and take corrective action as appropriate.
Small wording change	Ops_Post_1	ops_post_1_2	Establish and implement procedures to hand over resources during contract completion.
Deleted due to overlap	Tech_Post_1	ops_post_1_2	
Changed element; Small wording change	Org_Post_1	ops_post_2_3	Establish and implement procedures to ensure the continuity of service during contract completion.
Small wording change	Ops_Post_2	ops_post_3_2	Obtain and analyze client feedback during contract completion.

Change	Old ID	New ID	New Wording
Changed order; Small wording change	Tech_Over_3	tech_over_1_2	Establish and implement procedures to acquire, deploy, and upgrade technology.
Deleted due to overlap	Tech_Pre_1	tech_over_1_2	
None	Tech_Over_2	tech_over_2_2	Establish and implement procedures to manage the security of the technology infrastructure.
Changed order	Tech_Over_1	tech_over_3_2	Establish and implement procedures to track and control changes in the technology infrastructure.
Changed phase; Small wording change	Tech_Pre_2	tech_over_4_2	Establish and implement procedures to manage technology licenses.
Deleted due to overlap	Ppl_Over_12	tech_over_4_4	
Small wording change	Tech_Over_4	tech_over_5_4	Establish and implement procedures to proactively identify and introduce appropriate technology.
None	Tech_Exe_1	tech_exe_1_2	Establish and implement procedures to integrate an organization's technology infrastructure with that of the client, as appropriate.
Small wording change	Tech_Exe_2	tech_exe_2_3	Optimize the overall performance of the technology infrastructure needed to deliver all services.
Small wording change	KM_Over_8	km_over_1_4	Establish and implement a policy to share knowledge among stakeholders.
Major wording change	KM_Over_5	km_over_2_2	Identify, control, and provide the information required to perform service-related and support activities.
New practice		km_over_3_3	Establish and implement a knowledge system to identify, control and provide information.
Deleted due to overlap	KM_Pre_1	km_over_3_3	
Small wording change	KM_Over_6	km_over_4_3	Analyze and use knowledge gained from client engagements.
Major wording change	KM_Over_7	km_over_5_3	Identify and reuse work products.
Changed phase; Small wording change	KM_Exe_2	km_over_6_3	Analyze competencies used and developed throughout the outsourcing process.
Changed element; Major wording change	Org_Over_9	km_over_7_3	Analyze and use knowledge about clients and end-users.

Change	Old ID	New ID	New Wording
Small wording change; Changed phase; Changed element	Ops_Exe_18	km_over_8_3	Analyze and use feedback from clients and other stakeholders throughout the outsourcing process.
Deleted due to overlap	Ops_Post_3	km_over_8_3	
Changed element; Changed level	Org_Over_8	km_over_9_3	Analyze the perceptions that current and prospective clients have about the organization and its services.
Small wording change	KM_Pre_2	km_pre_1_3	Analyze and use market information about prospective clients.
None	KM_Exe_3	km_exe_1_2	Establish and implement procedures to capture and analyze data on resources consumed during contract execution
Small wording change	KM_Post_1	km_post_1_4	Establish and implement procedures to transfer to the client, during contract completion, the knowledge gained from the specific client engagement.
Removed from this version; planned for version 2.0	Ppl_Over_10		Obtain feedback from personnel and use it for organizational improvement.
Deleted, covered by multiple practices	KM_Over_3		
Deleted, covered by multiple practices	KM_Over_9		