The Capability Model for IT-enabled Outsourcing Service Providers

Volume II: Practice Descriptions

Elaine B. Hyder, Bennet Kumar, Vivek Mahendra, Jane Siegel, 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-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 outsourcing 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 outsourcing services and examples of failure abound. Failures typically happen throughout the outsourcing process, i.e., during requirements specification, contract execution or service completion.

The eServices Capability Model (e^{scm}) contains a set of practices that address the entire outsourcing process, and seek to aid IT-enabled outsourcing service providers to form, manage and improve outsourcing 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 minimal level of having the capability to deliver a service that meets client requirements up to the highest level of enhancing value through continuous innovation.

This volume provides readers with detailed descriptions for each of the 100 practices in the eServices Capability Model. It is the companion document to Technical Report CMU-CS-01-162.

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

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Introduction

This document provides detailed information about each of the 100 practices in the **e^scm**. The practices are organized according to the five organizational elements. On this page we explain the content of each section of text in each of the practice descriptions.

Element_Phase_Number **Capability Level**

Wording of the practice

Rationale: Explains the reason(s) for the practice in the **e^scm** *and describes the benefits achieved by the service provider, and value provided to the client, with implementation of this practice.*

Inputs - Lists other practices of the **e^scm** that aid in the implementation and institutionalization of the described practice.

Prerequisites
Practices at the same capability level or at capability levels below the described practice and are 'pre-requisites' for implementation and institutionalization of the described practice. (Practice number of the prerequisite practice appears here.)

Enhancers
Practices that are at capability levels higher than the described practice and enhance the described practice. Service providers typically address parts of these practices in order to improve the implementation and institutionalization of the described practice. (Practice number of the enhancing practice appears here.)

Outputs - Lists other practices of the **e^scm** that are aided by the implementation and institutionalization of the described practice.

Dependent Practices
Implementation of the described practice is a 'pre-requisite' for implementation and institutionalization for these dependent practices. (Practice number of the dependent practice appears here.)

Associated Practices
Implementation of the described practice enhances the associated practice. (Practice number of the associated practice appears here.)

Activities for the Organization

1. Provides a list of activities that need to be performed to fulfill the intent of the practice. A service provider has to perform all the listed activities to implement the practice.

Supplementary Information on Activities

Act. #. 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 segment(s) and market sector(s). The number to the left of this information (Act. #) shows the link to the appropriate activity in the section above, "Activities for the Organization."

Attributes to Measure

Attributes to measure - areas that need to be measured in order to manage and control the implementation of the practice.

Example Measures

• Listed are one or more indicative measures for each area.

Org_Over_1 Level 2

Define and communicate organizational objectives.

Rationale: An organization needs to clearly outline and communicate organizational objectives in order to set directions, create a client focus and define performance expectations. Objectives that address the needs of all stakeholders are prerequisites for the formation, management, and expansion of successful outsourcing relationships.

Inputs

Prerequisites

None

Enhancers

These practices aid in defining organizational objectives. (Org_Over_5, Org_Over_8, Ppl_Over_10, KM_Over_2, KM_Over_4)

Outputs

Dependent Practices

Organizational objectives are defined prior to implementing programs. (Org_Over_3)

Customer-focused objectives aid in developing, managing, and expanding client relationships. (Org_Over_7)

Organizational objectives are defined prior to identifying personnel competencies. (Ppl_Over_1)

Associated Practices

None

Activities for the Organization

1. Define the steps to be taken to identify and communicate organizational objectives. Concurrently, indicate the work products to be generated at each step.
2. Make available the information needed to set objectives.
3. Identify the personnel who will define and authorize objectives.
4. Focusing on improvement, define long-term objectives that are as measurable as possible. The objectives should address and balance the needs of the stakeholders.
5. Define time frames for achieving the objectives.
6. Document the objectives.
7. Identify appropriate methods and tools for communicating the objectives.
8. Communicate the objectives to relevant personnel.
9. Institutionalize the organizational objectives at appropriate levels in the organization.
10. Periodically review and revise the organizational objectives.

Supplementary Information on Activities

Activity 2. The information needed for setting organizational objectives includes organizational performance with respect to clients and the market, operational performance, existing organizational capability baselines, performance of improvement programs, client perception surveys, internal and external benchmarks, and feedback from the client at different stages of the contract.

Activity 4. The objectives relate to factors that influence client satisfaction or operational improvement. The organization's objectives can be derived from vision and mission statements, for example, “Increase market share by x%," "Increase client satisfaction by y%," and "Improve operational efficiencies by z%."

Activity 7. The methods and tools used for communicating organizational objectives include electronic bulletin boards, intranets, working groups, and team meetings.

Activity 9. Organizational objectives are established at appropriate levels by defining functional, departmental, team, and individual objectives and communicating those objectives.

Attributes to Measure

Presence of objectives that address stakeholder expectations

Example Measures

- Rating for presence of objectives by internal team

Alignment of objectives[1]

Example Measures

- Rating for alignment of objectives by internal team

Feasibility of defined objectives

Example Measures

- Rating for feasibility of objectives by internal team

Quantification of objectives

Example Measures

- Percentage of quantified objectives compared to the total objectives

Effectiveness of communicating objectives

Example Measures

- Number of internal and external communications with stakeholders regarding the organizational objectives
- Percentage of stakeholders who are aware of the organizational objectives (as applicable to their roles)

[1] With each other and with other short and long-term objectives, that is, individual, group, project, functional, and strategic.

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

Rationale: Clarity in defining roles in an organization and the responsibilities and authority associated with a role, are prerequisites for operationalizing organizational objectives. Effective communication of the defined roles enables relevant personnel to understand and adopt them.

Inputs

Prerequisites

Organizational objectives enable an organization to define a structure with clearly identified roles and their associated responsibilities and authority. (Org_Over_1)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

Personnel are assigned roles based on suitable qualifications, skills, experience and professional objectives. (Ppl_Over_3)

Activities for the Organization

1. Analyze the organization's objectives in order to identify the various functional areas within the organization and their associated activities.
2. Define and document roles based on the identified functional areas.
3. Define and document the responsibilities and authority associated with each role.
4. Identify and document the relationship between the core functions of a particular role and the associated functions of that role.
5. Define structured approaches to communicate roles, responsibilities, and associated authority to identified personnel.
6. Track and document changes, if any, in roles, responsibilities, and associated authority, and keep the affected personnel updated on the changes.

Supplementary Information on Activities

Activity 3. 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.

Activity 4. The core functions of a role are those that are directly associated with the organizational function to which the role is assigned. For example, finance is the organizational function and Vice President of Finance is the role. The associated functions for a role are those that are associated with other organizational functions and not with the core organizational function of the role. For example, a Vice President of Finance can also play a role on a negotiation team that is primarily part of a marketing function.

Activity 5. Structured approaches for communicating roles, responsibility, and authority include orientations, employee handbooks, intranets, and formal meetings.

Attributes to Measure

Clarity and effectiveness of communicating role definitions

Example Measures

- Personnel satisfaction rating (See Ppl_Over_10)
- Number of conflicts reported attributable to lack of role clarity

Coverage of role definition activities

Example Measures

- Percentage of personnel in the organization without proper role definition

Plan and implement programs for achieving organizational objectives.

Rationale: An organization needs to secure commitment, coordinate activities, and deploy required resources across all functions and levels to achieve organizational objectives. Programs aid in achieving objectives and enable organizations to develop the capabilities needed to increase the value they deliver to their clients.

Inputs

Prerequisites

Organizational objectives must be defined. (Org_Over_1)

Enhancers

Verification is an important means of monitoring and reviewing programs. (Org_Over_12)

Inputs from benchmarking aid in developing effective programs. (KM_Over_4)

Outputs

Dependent Practices

Implementation of preventive actions for potential problems is done through programs. (Ops_Over_5)

Introduction of technology is effected through programs. (Tech_Over_4)

Associated Practices

None

Activities for the Organization

1. Identify the programs necessary for achieving organizational objectives.
2. Prioritize the programs based on identified resource constraints and an analysis of their contribution towards the organizational objectives.
3. Define the activities, responsibilities, time frames, resources required, and intended outcomes of the programs, as part of planning.
4. Define and deploy programs at appropriate levels or functions within the organization.
5. Obtain commitment from the personnel involved.
6. Define the performance measures needed to track the progress of programs relative to the plan.
7. Review the programs at designated milestones and compare them against objectives.
8. Take appropriate actions based on the above review.
9. Communicate progress on programs to affected personnel.

Supplementary Information on Activities

Activity 1. Organizations set various objectives related to clients, operations, revenue, and profitability, depending on the overall organizational direction. Improvement programs are initiated based on inputs from personnel, clients, end-users, subcontractors, and investors, as well as performance reviews, analysis of defects, and customer satisfaction surveys.

Multiple programs are defined for a given organizational objective. For example, if the organizational objective is “Increase market share by x %,” programs may be defined to create “n” number of new services or to improve the overall skill level of personnel.

Activity 2. Prioritize programs based on the results of feasibility studies, cost-benefit analysis, expected time frame for implementation, and dependencies across programs. For example, a program of technology upgrading may have to be carried out before a training program on the upgraded technology.

Attributes to Measure

Coverage of programs

Example Measures

- Percentage of objectives covered by programs

Effectiveness of the plan[1]

Example Measures

- Percentage of programs completed on time
- Percentage of programs completed within budget

Resource consumption

Example Measures

- Person-hours spent on program implementation
- Investment in technology for programs implemented

Program effectiveness

Example Measures

- Percentage reduction in response time to meet client requirements
- Percentage reduction in time or effort taken to design and deploy a service
- Percentage reduction in time or effort taken to deliver services
- Percentage improvement in personnel satisfaction
- Percentage improvement in client satisfaction

Program implementation effectiveness[2]

Example Measures

- Percentage of programs proceeding according to plan
- Percentage of programs proceeding according to budget

[1]Measure at the completion of the program.
[2]Measure while program is in process.

Establish and implement procedures, at appropriate levels in the organization, for periodically reviewing the organization's performance.

Rationale: Structured and periodic reviews across various levels enable an organization to ensure the effectiveness of its planned approach to achieve organizational and performance objectives. Reviews enable an organization to identify improvement opportunities.

Inputs

Prerequisites

Organizational objectives, deployed at appropriate levels in the organization, are used to review organizational performance. (Org_Over_1)

Enhancers

Satisfaction surveys of current and prospective clients are used for organizational performance reviews. (Org_Over_8)

Feedback received from personnel, and action taken, is included in a review. (Ppl_Over_10)

Internal and external benchmarking efforts help an organization to define and review its performance objectives. (KM_Over_4)

Outputs

Dependent Practices

Results of the review provide direction to the organization for its improvement efforts. (Org_Over_5)

Results of the review enable an organization to take corrective action in case deviations are observed. (Ops_Over_4)

Activities for the Organization

1. Identify the need for review and the areas to be reviewed.
2. Make plans to carry out reviews at appropriate levels.
3. Describe the purpose of implementing procedures for periodically reviewing the organization's performance, and identify the expected results.
4. Define and document the steps to be taken in reviewing the performance of the organization at predefined intervals. Concurrently, indicate the work products to be generated at each step.
5. Identify and provide the resources required for the review.
6. Identify the personnel who will review the organization's performance, and define their roles and responsibilities. Train and authorize the identified personnel.
7. Obtain inputs for reviewing the organization's performance from the personnel involved in setting the objectives.
8. Identify the information required for the review and make it available to the review participants.
9. Review the organization's performance at predefined intervals or on an event-driven basis.
10. Document the findings of the review and communicate them to relevant personnel.

Results of performance measures enable an organization to define its capability baselines. (KM_Over_2)

Reviews also provide a means to validate results of the performance measures. (KM_Over_3)

Associated Practices
None

Supplementary Information on Activities

Activity 1. Areas to be reviewed include overall organization performance; contract-specific performance; performance of programs initiated; and performance of specific areas, including technology and user perception. Types of reviews include progress revenues and milestone reviews.

Activity 3. The agenda for an organization-wide review may include organizational performance; performance of function, department, project, unit and team; stakeholder satisfaction; resources, including technology and people usage; relevance of existing policies in risk, security, and confidentiality; achievement of organizational commitments to its clients; and internal conflicts and issues needing attention or solution.

Activity 7. Inputs required for an organization-wide review include results of key performance measures with respect to objectives and procedures, 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.

Attributes to Measure

Coverage of review[1]

Example Measures

- Areas actually reviewed compared to those planned to be reviewed
- Number of reviews conducted compared to number of reviews required

Effectiveness of review activity

Example Measures

- Percentage of line items in the agenda covered in review
- Percentage of line items for which action items are defined
- Absence of critical participants

Resource consumption

Example Measures

- Person-hours spent in preparing and conducting the review

[1] Areas to be reviewed, frequency and number of reviews.

Utilize lessons learned from performance reviews to identify opportunities for improvement.

Rationale: Knowledge gained from performance reviews of an organization enables continuous capability improvement and increases stakeholder value.

Inputs

Prerequisites

Programs are used as a means to implement improvement efforts. (Org_Over_3)

Opportunities for improvement are identified through performance reviews. (Org_Over_4)

Capability baselines and benchmarking efforts are reviewed to identify opportunities for improvement. (KM_Over_2, KM_Over_4)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

Organizational objectives are redefined based on identified opportunities for improvement. (Org_Over_1)

Activities for the Organization

1. Identify improvement-related actions arising from a performance review.
2. Define appropriate programs for implementing improvement actions.
3. Track the progress of improvement programs undertaken, and communicate the status to affected stakeholders.
4. Periodically review the status of improvement actions and the resulting benefits.

Supplementary Information on Activities

Activity 1. Improvements are made in resources used, including personnel and technology; and in specific procedures, such as procedures for service design, deployment, and delivery, communication, security management, reviews and performance appraisals.

Activity 2. Programs are defined to achieve specific improvements. For example, a program may be defined to reduce the time taken to design and deploy a service.

Attributes to Measure

Effectiveness of performance review

Example Measures

- Number of remedial and preventive actions identified
- Number of improvement programs initiated

Benefits of improvement programs initiated on the basis of review

Example Measures

- Reduction in response time to client requirements
- Reduction in time taken to design and deploy a service
- Percentage improvement in personnel satisfaction
- Percentage improvement in customer satisfaction

Org_Over_6 Level 3

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

Rationale: An organization needs to plan and provide adequate resources in order to maintain operational efficiency, and to meet commitments made to clients.

Inputs

Prerequisites

Organizational objectives are inputs for estimating resources required. (Org_Over_1)

Information on resources consumed aids in estimating resources required. (KM_Exe_2)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Designate personnel who will identify resource requirements.
2. Provide the information and tools needed to plan resource requirements. Plan for resource requirements.
3. Identify the personnel who are authorized to acquire or subcontract additional resources.
4. Define and communicate the steps personnel need to follow to request resources.
5. Make available the resources required for service-related and support activities.
6. Document the resources allocated for service-related and support activities.
7. Track the utilization of resources allocated and document changes in allocation.

Supplementary Information on Activities

Activity 2. Information needed to estimate resource requirements includes organizational objectives, improvement programs, historical utilization data, skills inventory, and technology inventory. Tools needed to estimate resources include spreadsheet programs and forecasting applications. Capacity and utilization plans for service-related and support activities can be used for resource planning.

Activity 5. Resource requirements, such as personnel, expertise, technology infrastructure, and funding, are made available to support organization-wide activities. Organization-wide support activities include verifying the implementation of procedures and programs, operational improvement, research and development, improving the physical environment, and monitoring personnel performance.

Attributes to Measure

Adequacy of resources[1]

Example Measures

- Number of instances where defined roles are left vacant
- Number of instances of mismatches in allocated skills
- Differences between the actual time spent on service and support activities compared to the planned time
- Number of instances of inadequate resources in infrastructure components, compared to those defined as requirements during service design
- Number of service failures attributable to inadequacy of resources

Effectiveness of resource planning

Example Measures

- Percentage of resource requests not fulfilled
- Percentage of emergency resource requests compared to total resource requests
- Percentage of resource requests not budgeted for, compared to total resource requests

[1] Focusing on technology and personnel

Establish and implement procedures for developing and managing relationships with clients and prospective clients.

Rationale: An organization utilizes its experience and knowledge about the market sector and its clients and prospective clients to customize its approach and its service offerings. This fosters long-term relationships with clients and enhances its credibility in the market.

Inputs

Prerequisites

Organizational objectives provide guidance for the development and management of client relationships. (Org_Over_1)

Defining roles and responsibilities of client and organization aids in resolving disputes and maintaining client relationships. (Ops_Pre_4)

Understanding client or prospective client perception is a prerequisite for better relationships. (Org_Over_8)

Designation of appropriate personnel aids in developing and managing client relationships. (Ppl_Pre_1, Ppl_Pre_2, Ppl_Exe_1)

Customizing service design and service delivery is a means for developing and managing client relationships. (Ops_Exe_5, Ops_Exe_14)

Client feedback is used to customize service offerings and develop value-adding relationships. (Ops_Exe_11, Ops_Exe_18, Ops_Post_2)

Enhancers

None

Activities for the Organization

1. Describe the purpose of implementing procedures for developing and managing relationships with clients and prospective clients, and identify expected results.
2. Define and document the steps to be taken in developing and managing relationships with clients and prospective clients. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required for developing and managing relationships.
4. Identify personnel who will develope and manage relationships with clients and prospective clients. Train and authorize the identified personnel.
5. Get feedback from clients and prospective clients on service offerings.
6. Customize service offerings based on organizational knowledge of the market, clients, and end-users.
7. Establish communication mechanisms that encourage effective interactions with clients and prospective clients.
8. Customize communications based on feedback from previous interactions.
9. Identify and make available the information requirements of clients and prospective clients.
10. Define mechanisms for providing the clients access to information and to relevant personnel.

Outputs

Dependent Practices

None

Associated Practices

As a part of customizing client requirements, cultural fit is also addressed. (Org_Exe_2)

Supplementary Information on Activities

Activity 2. Typical work products generated as part of developing and managing relationships include templates for: communicating with clients, obtaining feedback from clients, and providing information required by clients.

Activity 4. Personnel needed for developing and managing relationships include program managers for specific service offerings, key account managers for specific clients, project managers, a client interaction team and a negotiation team.

Activity 5. Feedback from clients and prospective clients is gotten through structured operational steps such as surveys and meetings, and through personal interactions.

Activity 6. Service offerings may be customized through program management or through a consultative method of marketing services. In the program management method, a program manager is appointed. In the consultative method, the organization acts as a guide for the clients, and uses its knowledge of the market sector, service segment, and clients to improve services.

Attributes to Measure

Responsiveness of the organization to clients' or prospective clients' expectations

Example Measures

- Mean time to respond to clients' or prospective clients' queries
- Percentage of clients provided with a person dedicated to their account

Effectiveness of the relationship building

Example Measures

- Percentage increase in the value of business from existing clients (from extension of existing contracts or new service offerings)
- Percentage of new business from client referrals
- Average duration of existing client engagements
- Percentage of service customizations initiated by the organization compared to total service offerings

Establish and implement procedures to understand the perceptions that current and prospective clients have about the organization and its services.

Rationale: An organization needs to proactively understand the perceptions that current and prospective clients have in order to continuously improve services to meet client expectations and capitalize on emerging requirements.

Inputs

Prerequisites

Performance reviews are used to identify organizational attributes for which you need client perception. (Org_Over_4)

Knowledge about the client is used to identify attributes and methods for collecting client perception. (Org_Over_9)

Obtaining feedback from clients at various stages of the contract is a means to understand client perceptions. (Ops_Over_11, Ops_Over_18)

Enhancers

None

Outputs

Dependent Practices

Obtaining the client's perception aids in developing and improving client relationships. (Org_Over_7)

Proactive client feedback is a means of identifying potential problems and defining preventive actions. (Ops_Over_5)

Client perception is used for benchmarking. (KM_Over_4)

Associated Practices

Understanding the perceptions of clients and prospective clients provides guidance for defining organizational objectives. (Org_Over_1)

Activities for the Organization

1. Describe the purpose of implementing procedures for understanding the perceptions of current and prospective clients, and identify expected results.
2. Define and document the steps to be taken in understanding the perceptions of current and prospective clients. Concurrently, indicate the work products to be generated at each step. Make information on current and prospective clients available to appropriate personnel.
3. Identify organizational attributes that the organization would like to get the client perception on. Derive these attributes from an analysis of organizational objectives, performance reviews and information on current and prospective clients.
4. Define methods to understand the clients' perceptions of the identified attributes.
5. Identify and develop tools for understanding the perceptions that current and prospective clients have about the organization.
6. Identify and provide the resources required for understanding the perceptions of current and prospective clients.
7. Identify personnel required for understanding the perceptions of current and prospective clients, and define their roles and responsibilities. Train and authorize the identified personnel.
8. Obtain information on the perceptions that current and prospective clients have about the organization and its service offerings.
9. Analyze the perceptions of current and prospective clients and make the findings available to relevant personnel.
10. Identify actions for improvement based on the findings. Track the identified actions to closure.

Supplementary Information on Activities

Activity 2. Methods for obtaining information on the perceptions of current and prospective clients include mail, e-mail, and telephone surveys; focus groups with key clients; and interviews with prospects or clients lost to competitors.

Activity 5. Tools include questionnaires, web-based forms, audiovisual equipment, and statistical software applications.

Activity 8. Obtain client perceptions on the following organizational attributes: 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.

Attributes to Measure

<u>Quality of procedure for understanding client perceptions</u>

Example Measures

- Percentage coverage of current and prospective clients in the perception survey
- Average response rate to perception surveys initiated
- Number of activities executed for understanding the perceptions of current and prospective clients' compared to the number of activities planned

<u>Resource consumption</u>

Example Measures

- Resources consumed in understanding the perceptions of current and prospective clients (in cost and person hours)

<u>Effectiveness</u>

Example Measures

- Number of corrective or preventive actions initiated based on findings from perception surveys
- Number of improvement programs initiated based on findings from perception survey

Establish and implement procedures to collect and disseminate knowledge about clients and end-users.

Rationale: An organization's effectiveness in responding to clients' and end-users' needs and desires is affected by its knowledge of clients and end-users. Such knowledge provides a basis for understanding the circumstances of users and usage of the required services ("the context of use"), and the ability to meet client and end-user expectations.

Inputs

Prerequisites

Capturing interactions with clients is used to collect knowledge about clients and end-users. (Ops_Over_3)

Capturing and organizing client requirements in a knowledge base enables an organization to collect knowledge about clients. (KM_Pre_1)

Collection, validation, and dissemination of market information about prospective clients provides inputs to the knowledge about clients and end-users. (KM_Pre_2)

Enhancers

None

Outputs

Dependent Practices

Knowledge about clients and end-users aids in understanding current and prospective client perceptions. (Org_Over_8)

Knowledge about clients and end-users aid in achieving a cultural fit. (Org_Exe_2)

Activities for the Organization

1. Describe the purpose of implementing the procedure for collecting and disseminating knowledge about clients and end-users, and identify the expected results.
2. Define and document the steps to be taken in collecting and disseminating knowledge about clients and end-users. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required for collecting and disseminating knowledge about clients and end-users.
4. Identify personnel who will collect and disseminate knowledge about clients and end-users and define their roles and responsibilities. Train and authorize the identified personnel.
5. Systematically collect and update knowledge about clients and end-users.
6. Furnish the tools required for updating and disseminating the collected knowledge.
7. Define methods to disseminate knowledge about clients and end-users.
8. Disseminate knowledge on clients and end-users, based on the organization's and client's policies on confidentiality and security.

Supplementary Information on Activities

Activity 1. Means to collect knowledge about clients and end-users include structured research, meetings with clients, participation in industry forums, and recording the experiences of client interaction teams.

Associated Practices

Knowledge about clients and end-users aids in capturing client requirements. (Ops_Pre_1)

Knowledge about clients and end-users enables the designated client interaction team to clearly understand the client's and end-user's needs and position the organization's solutions appropriately. (Ppl_Pre_1)

Knowledge about clients and end-users enables an organization to comprehensively respond to prospective client requirements. (Ops_Pre_6)

Activity 5. Knowledge about the client and the end-user typically include characteristics of the client and end-user, context of use of the service, characteristics of the market sector to which the client belongs, and factors that influence client and end-user satisfaction.

Activity 6. Tools include intranets, customer relationship management applications, and workflow applications.

Activity 7. Knowledge of the client and the end-user is disseminated within the organization by providing access to specialized knowledge bases or through training.

Attributes to Measure

Quality of knowledge about clients and end-users

Example Measures

- Frequency of updating client and end-user information repository
- Number of complaints by the personnel on the clarity, correctness, and comprehensiveness of the information in the client and end-user information repository

Resource consumption

Example Measures

- Resources consumed in aggregating and updating the client and end-user information repository (in cost and person hours)

Effectiveness of knowledge dissemination

Example Measures

- Frequency of information sharing interactions with the client and the end-user
- Feedback from personnel on the ease of retrievability of information from the repository

Benefits derived from use of knowledge about clients and end-users

Example Measures

- Number of service customizations initiated by the organization
- Percentage reduction in client complaints or requests for clarification
- Percentage reduction in response time
- Feedback from clients on the effectiveness of the approach and the understanding of their requirements by the client interaction team
- Improvement in client and end-user rating on the organization's quality of response

Define a risk management policy.

Rationale: An organization's risk management policy gives direction to internal stakeholders on the identification and management of risk.

Inputs

Prerequisites

Organizational objectives are used to define the risk management policy. (Org_Over_1)

The security and confidentiality policy provides guidance on risks related to breach of security or loss of confidentiality. (Org_Over_11)

Statutory and legal requirements provide guidance for defining the risk management policy. (Ops_Pre_3)

Feedback from clients in case of contract termination aid in reviewing the risk management policy. (Ops_Post_3)

Enhancers

None

Outputs

Dependent Practices

The risk management policy enables the identification and assessment of contract specific risks. (Ops_Pre_2)

Associated Practices

The risk management policy provides direction to, and improves the activity of, planning and managing contract-specific risks. (Org_Exe_3)

Activities for the Organization

1. Derive the policy on risk management based on perceived risks.

2. Define and document the risk management policy. Communicate the risk management policy to appropriate personnel.

3. Ensure that the risk management policy provides direction for identification and management of risk.

4. Ensure that the risk management policy clearly articulates the organization’s tolerance to risk.

5. Review the risk management policy periodically for relevance to existing operations and modify it, if required.

Supplementary Information on Activities

Activity 1. The risks perceived by the organization are based on the organization's experience, domain of operations, resource, and organizational baselines.

The perceived risks typically include known weaknesses in the organization's procedures; insufficient resources, including personnel; reliability of technology infrastructure; inadequate skill availability; security; and technology obsolescence.

Risks in business operations are related to technology, service segment, market sector, client and personnel.

The risk management policy provides guidance for improving the security management procedures. (Tech_Over_2)

A defined risk management policy improves the ability to identify potentially adverse situations. (Tech_Over_5)

Attributes to Measure

Quality of risk management policy

Example Measures

- Internal rating of risk management policy for coverage of perceived risks, ability to provide guidance, comprehensiveness, and clarity
- Number of clarifications requested on risk management policy
- Frequency of updating the risk management policy

Awareness of risk management policy

Example Measures

- Percentage of relevant personnel who are aware of risk management policy

Org_Over_11 Level 2

Define the organization’s policies on security and confidentiality and communicate them to stakeholders.

Rationale: Well-defined and well-understood policies on security and confidentiality provide direction for an organization to set up systems required to counter potential threats. The ability to demonstrate appropriate levels of security and confidentiality is critical in a client’s selection of an organization.

Inputs

Prerequisites

None

Enhancers

Experiences from previous projects can help to identify potential threats and refine counter measures. (KM_Over_6)

Outputs

Dependent Practices

The security and confidentiality policy provides direction on risks relating to breach of security and loss of confidentiality. (Org_Over_10)

The security and confidentiality policy provides direction for defining procedures for meeting client requirements of confidentiality and security. (Ops_Over_6)

The security and confidentiality policy is used to identify contract-specific risks related to security and confidentiality. (Ops_Pre_2)

The security and confidentiality policy is used to define procedures for security management. (Tech_Over_2)

Activities for the Organization

1. Derive the policy on security and confidentiality based on an analysis of potential threats to the organization’s infrastructure and information systems.

2. Ensure that the policy addresses the issues of confidentiality and security for all organizational resources.

3. Ensure that the policy provides directions for implementing security and confidentiality management procedures, including levels of monitoring and remedial action to be taken in case of breach.

4. Define and document the organization’s security and confidentiality policy and communicate it to the relevant stakeholders.

5. Define and document the steps to be taken for implementing the organization’s policy on security and confidentiality.

6. Periodically review the organization’s policy, and the steps defined, for their relevance to existing operations and modify, if required.

Supplementary Information on Activities

Activity 1. 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.

The security and confidentiality policy provides inputs for defining disaster recovery procedures (as related to security threats). (Tech_Over_5)

<u>Associated Practices</u>
None

Examples of potential threats 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 2. Organizational resources placed under security and confidentiality may include personnel; technology, such as networks or software applications; client-supplied information; and proprietary tools and information.

Activity 3. Security and confidentiality policies typically cover access and use policies, installation policy, configuration policy on information infrastructure, encryption, and information privacy.

Activity 5. Security and confidentiality 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 6. Monitor the effectiveness of the security and confidentiality through security audits, usage of monitoring tools, reports on resources accessed, frequency of access, and rate of utilization.

Attributes to Measure

<u>Quality of security and confidentiality policies</u>

Example Measures

- Internal rating of security and confidentiality policies for coverage of perceived threats, ability to provide guidance, comprehensiveness, and clarity
- Number of clarifications requested on security and confidentiality policies
- Frequency of updating of security and confidentiality policies
- Number of policy revisions executed based on client's requirements of security and confidentiality

<u>Communication effort</u>

Example Measures

- Number of hours of training on security and confidentiality policies

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

Rationale: Verification provides information that is required to control and improve the performance of programs initiated by an organization.

Inputs

Prerequisites

Verification of programs is done compared to defined organizational objectives. (Org_Over_1)

Verification is carried out on planned programs. (Org_Over_3)

Enhancers

None

Outputs

Dependent Practices

Results of verification of programs are used to identify opportunities for improvement. (Org_Over_5)

Associated Practices

None

Activities for the Organization

1. Identify the need for verification and the attributes of the program being verified.

2. Describe the purpose of implementing procedures to verify the execution of programs, and identify expected results.

3. Define and document the steps to be taken to verify the implementation of programs. Concurrently, indicate the work products to be generated at each step.

4. Document criteria for planning a verification activity. Define a schedule for the verification activity, either on an event-driven basis or at a predefined frequency.

5. Identify and provide the resources required for verifying the implementation of programs.

6. Identify personnel who will verify the implementation of programs, and define their roles and responsibilities. Train and authorize the identified personnel. Ensure that the identified personnel are not involved in the programs being verified.

7. Carry out the verification based on the steps defined.

8. Formulate guidelines for addressing non-compliance. Identify and take actions to address non-compliance.

9. Evaluate the effectiveness of the actions taken to address non-compliance and document the findings.

Supplementary Information on Activities

Activity 3. Work products include templates for presenting the verification results, for carrying out the verification, and for documenting the actions initiated.

Activity 7. Verification is conducted by internal personnel or by qualified external auditors.

Activity 8. Guidelines on addressing non-compliance include definitions of acceptable time frames for closure, methods for assigning responsibility for action, types of action to be taken, and channels for reporting and escalation.

Attributes to Measure

<u>Coverage of verification activities</u>

Example Measures

- Number of verifications conducted for the implemented programs
- Number of instances of non-compliance observed per verification activity

<u>Effectiveness of verification activity</u>

Example Measures

- Percentage of verification activities carried out according to the plan
- Number of action items identified based on the non-compliance observed during verification

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

Rationale: Verification provides information for controlling the performance of organizational procedures and improving their effectiveness.

Inputs

Prerequisites

None

Enhancers

None

Outputs

Dependent Practices

Results of verification of procedures are used to identify opportunities for improvement. (Org_Over_5)

Results of verification are used to identify potential problems and implement preventive actions. (Ops_Over_5)

Associated Practices

None

Activities for the Organization

1. Identify the need for verification and the attributes of the program being verified.

2. Describe the purpose of implementing procedures to verify the execution of programs, and identify expected results.

3. Define and document the steps to be taken to verify the implementation of programs. Concurrently, indicate the work products to be generated at each step.

4. Document criteria for planning a verification activity. Define a schedule for the verification activity, either on an event-driven basis or at a predefined frequency.

5. Identify and provide the resources required for verifying the implementation of programs.

6. Identify personnel who will verify the implementation of programs, and define their roles and responsibilities. Train and authorize the identified personnel. Ensure that the identified personnel are not involved in the programs being verified.

7. Carry out the verification based on the steps defined.

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Supplementary Information on Activities

Activity 3. Work products include templates for presenting the verification results, for carrying out the verification, and for documenting the actions initiated.

Activity 7. Verification is conducted by internal personnel or by qualified external auditors.

Activity 8. Guidelines on addressing non-compliance include definitions of acceptable time frames for closure, methods for assigning responsibility for action, types of action to be taken, and channels for reporting and escalation.

Attributes to Measure

<u>Coverage of verification activities</u>

Example Measures

- Number of verification for procedures conducted
- Number of instances of non-compliance observed based on the verification activity

<u>Effectiveness of verification activity</u>

Example Measures

- Percentage of verification activities carried out according to the plan
- Number of action items identified based on the non-compliance observed during verification
- Instances of non-compliance closed within targeted duration

<u>Resource consumption</u>

Example Measures

- Total person-hours spent on planning and carrying out verification activities

Define guidelines for negotiations with potential or existing clients.

Rationale: Negotiation guidelines aid coordination between personnel and identify mutual gains so that objective agreements can be reached with the client.

Inputs

Prerequisites

Organizational objectives are used to define guidelines for negotiations. (Org_Over_1)

Client and end-user related knowledge is used to formulate negotiation guidelines. (Org_Over_9)

Pricing guidelines aid in price negotiations when formulating negotiation guidelines. (Org_Pre_2)

Experiences from past negotiations aid in formulating guidelines for negotiation. (KM_Over_6)

Enhancers

None

Outputs

Dependent Practices

Negotiation guidelines lay the foundation for managing relationships with clients or prospective clients. (Org_Over_7)

Activities for the Organization

1. Formulate guidelines for negotiation that include a schedule for negotiations, assignment of personnel, authority of personnel involved, escalation, documentation of exchanges, ethical standards, and legal guidance.
2. Train the personnel or teams involved in negotiations with clients or prospective clients, on negotiation guidelines.
3. Make the guidelines available and ensure that the team follows the guidelines when negotiating with clients or prospective clients.
4. Review the guidelines periodically and revise them, if required.

Supplementary Information on Activities

Activity 2. Personnel or teams may be trained to adapt the guidelines for specific situations or issues, such as legal issues, previous negotiation experiences, and maintaining relationships.

Associated Practices

Personnel are designated to negotiate with clients based on the negotiation guidelines. (Ppl_Pre_2)

Negotiation guidelines aid in determining and communicating key issues. (Ops_Pre_7)

Attributes to Measure

Quality of negotiation guidelines

Example Measures

- Internal rating of negotiation guidelines on clarity, usefulness, and comprehensiveness
- Number of clarifications requested on negotiation guidelines
- Frequency of updating the negotiation guidelines

Awareness of negotiation guidelines

Example Measures

- Percentage of relevant personnel who are aware of the negotiation guidelines

Define guidelines for pricing services.

Rationale: Defined pricing guidelines enable an organization to identify appropriate pricing models and, therefore, quickly respond to a client's request for a proposal.

Activities for the Organization

1. Formulate pricing guidelines based on the organizational objectives and market trends. Document and communicate these guidelines to appropriate personnel.

2. Pricing guidelines include:

   a. Pricing models for the various types of service requests

   b. Criteria for the applicability of the pricing models

   c. Guidance on using the pricing models to estimate charges for various stages in delivering the service. (Ensure that the estimation takes into account the service levels committed to.)

   d. Guidance on estimating the charges for transition and termination of the services

   e. Specifications of the personnel or teams responsible for, and authorized to, estimate, and approve the charges for the services requested

   f. Frequency and criteria for reviewing the charges for the services provided

3. Periodically review the guidelines for relevance to existing operations, and modify them if required.

Supplementary Information on Activities

Activity 1. Organizational objectives related to pricing include competitive positioning, cost and quality expectations, desired profit margins, and technology.

Inputs

Prerequisites

Defined organizational objectives aid in formulating effective pricing guidelines. (Org_Over_1)

Contracting procedures help in determining the price components, mechanisms for price revision and stipulation of penalties or bonuses. (Org_Pre_3)

Enhancers

Market information about prospective clients improves the pricing guidelines. (KM_Pre_2)

Outputs

Dependent Practices

Pricing guidelines provide direction for defining negotiation guidelines. (Org_Pre_1)

Pricing guidelines provide direction for reviewing the commercial feasibility of client requirements. (Ops_Pre_5)

Pricing guidelines aid in addressing the pricing-related issues in a proposal. (Org_Pre_6)

Pricing guidelines enable the identification of key issues requiring client agreement. (Org_Pre_7)

Associated Practices

None

Activity 2.

a. Typical pricing models include fixed price, cost-plus, management fee, hourly fee, profit sharing, value-based, and performance-based.

   Types of service requests include a task, a project, or a complete business process.

b. Criteria for applicability of the pricing model 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.

c. Estimation of charges includes guidance on choosing the appropriate pricing model for service components, and methods for estimating resource requirements. Stages in delivering services include design, deployment, and delivery. Linking of prices to service levels may be done by specific penalties or bonuses attached to the various service level parameters. The guidelines may also include pricing models for additional services that the client may require, which do not form a part of the defined service.

d. Pricing components linked to transition include charges for installation, integration, testing or piloting, and training.

   Charges related to termination include costs for transfer of assets and penalties.

e. Review of prices could occur based on contract amendments due to changes in the nature of the service or an increase or decrease in the quantity of the service and service levels

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, or changes in the organization’s objectives.

Attributes to Measure

Quality of pricing guidelines

Example Measures

- Internal rating of pricing guidelines for usefulness, clarity, comprehensiveness, and coverage
- Number of clarifications requested on pricing guidelines
- Frequency of updating pricing guidelines
- Variation in actual costs of providing a service compared to estimated cost calculated using the pricing guidelines

Awareness of pricing guidelines

Example Measures

- Percentage of relevant personnel who are aware of the pricing guidelines

Org_Pre_3 Level 2

Establish and implement procedures for formulating and amending contracts.

Rationale: Contract procedures lead to the formulation of effective outsourcing contracts that clearly address the services required, service levels, terms, conditions, and responsibilities of a client and an organization. In addition, the provision for amending contracts provides a level of flexibility that enables the contract participants to keep pace with changes in the business scenario, without affecting relationships.

Inputs

Prerequisites

Defined guidelines for pricing enable the formulation of effective outsourcing contracts. (Org_Pre_2)

Client requirements for confidentiality, security, and protection of intellectual property need to be incorporated in the contract. (Ops_Over_6)

Client requirements need to be documented in the contract. (Ops_Pre_1)

Statutory and regulatory requirements need to be incorporated in the contract. (Ops_Pre_3)

Roles and responsibilities of client and an organization are defined in the contract. (Ops_Pre_4)

Key issues requiring client agreement need to be negotiated and incorporated in the contract. (Ops_Pre_7)

Technology licensing provisions are included in the contract. (Tech_Pre_2)

Enhancers

Defined guidelines for negotiations enable the negotiation of effective outsourcing contracts. (Org_Pre_1)

Activities for the Organization

1. Describe the purpose of implementing procedures for formulating and amending contracts, and identify the expected results.

2. Define and document the steps to be taken in formulating and amending contracts. Concurrently, indicate the work products to be generated at each step.

3. Identify and provide the resources required for formulating and amending contracts.

4. Identify the personnel who will formulate and amend contracts, and define their role and responsibilities. Train the personnel in formulating contracts.

5. Authorize appropriate personnel to formalize agreements with clients, and approve changes in the contracts.

6. Generate the contract based on the agreement with the client on the services to be provided.

7. Study, and document the impact of, any proposed changes, and communicate them to the client before amending the contract.

8. Obtain and document client acceptance on the proposed changes before initiating the required changes.

Supplementary Information on Activities

Activity 2. Work products can be in the form of templates for minutes of meeting, terms and conditions, costing, and approvals. Steps for making contract amendments include identifying changes, obtaining client commitment to changes, approving changes, and identifying and making changes to affected contract provisions.

Activity 4. Training provided to personnel involved in negotiations includes legal, operational, decision-making, conflict resolution, and coordination training.

Outputs

Dependent Practices

Tracking is done against service levels and commitments specified in the contract. (Ops_Exe_17)

Milestones for obtaining client feedback are defined in the contract. (Ops_Exe_18)

Modifications to services are effected according to contract amendment procedures. (Ops_Exe_20)

Associated Practices

None

Activity 5. An agreement with a client could be documented in the form of a standard contract including 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 time frames and performance during transition period.

Billing and payment terms, termination provisions, and other terms and conditions.

Attributes to Measure

Effectiveness of contracting procedure

Example Measures

- Number of amendments required in the contract, attributable to insufficient or unclear information
- Average number of days from the initiation of negotiations, required for finalizing contracts
- Percentage of service modifications affected through contract amendments compared to total number of service modifications

Quality of client agreement

Example Measures

- Internal rating of client agreement for its comprehensiveness, flexibility, and performance orientation

Org_Exe_1 Level 2

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

Rationale: Clear and precise communication of the client's requirements to the service design and deployment team is essential for the delivered service to be able to meet the client's stated and perceived needs.

Inputs

Prerequisites

Procedures for capturing interactions with clients enable accurate communication of requirements. (Ops_Over_3)

Client requirements need to be accurately captured to ensure effective communication of requirements. (Ops_Pre_1)

Client interaction team needs to be designated for capturing client requirements. (Ppl_Pre_1)

Requirements are communicated to the designated service design and deployment team. (Ppl_Exe_1)

Enhancers

None

Outputs

Dependent Practices

Clear and comprehensive communication of client requirements is required to develop accurate service specifications. (Ops_Exe_2)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures for communicating the client's requirements from the client interaction team to the service design and deployment team, and identify expected outcomes.
2. Define and document the steps to be taken for communicating client requirements from the client interaction team to the service design and deployment team. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required for communicating client requirements from the client interaction team to the service design and deployment team. Define methods and media of communication, taking into consideration the participants involved in the communication.
4. Train the designated teams on methods of effective communication to ensure that the captured client requirements are transferred clearly and precisely.
5. Have the service design and deployment team verify the accuracy of their understanding of the client requirements, which was captured in the service specification, by comparing it to the documented requirements they received from the client interaction team.
6. Maintain documentation on the communication and acceptance from the client interaction team to the service design and deployment team.
7. Define methods for seeking and obtaining clarifications. Document, and communicate to relevant personnel, any clarifications.

Supplementary Information on Activities

Activity 2. Work products generated include templates for minutes of meetings, sign-off's on interactions, and responses to clarifications.

Activity 3. 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.

Technology resources required for communication include project intranets, e-mails, and memos.

Activity 6. Acceptance of assigned personnel or teams can be in the form of sign-off's on communication records.

Attributes to Measure

<u>Effectiveness of communication</u>

Example Measures

- Number of clarifications requested by the service design and deployment team regarding client requirements
- Number of interactions planned between the client interaction team and service design and deployment team

Org_Exe_2 Level 3

Determine the specific cultural attributes that are required to provide the intended service, and initiate actions to achieve a cultural fit.

Rationale: Having a cultural fit becomes extremely important in outsourcing, where organizations and clients or end-users may be from different cultural backgrounds. Cultural fit in this kind of engagement becomes a vital criterion, as close coordination is necessary to achieve the desired benefits.

Activities for the Organization

1. Define and document steps to be taken for identifying cultural attributes, and achieving cultural fit.

2. Capture information on cultural attributes specific to the market sector, clients, and end-users being targeted.

3. Provide training to achieve a cultural fit for personnel whose roles directly affect a client or end-user's experience with the service.

4. Obtain the client's feedback on the efforts taken and the results that were achieved when attempting to ensure a cultural fit. Identify additional actions to be taken based on the analysis of results. Track to closure the actions initiated.

Supplementary Information on Activities

Activity 2. Cultural attributes that are specific to a market sector, clients or end-users include language, including accent and vocabulary; and social and behavioral aspects, including actions or words to be avoided.

Activity 3. Personnel who affect a client and end-user experience include those directly interacting with clients, prospective clients, and end-users; and those involved in design, deployment, delivery, and support of services.

Inputs

Prerequisites

Client and end-user knowledge enables the determination of client-specific cultural attributes and the initiation of actions to achieve a cultural fit. (Org_Over_9)

Capturing interactions with clients enables the determination of specific cultural attributes. (Ops_Over_3)

Obtaining client feedback on the designed service enables the determination of specific cultural attributes. (Ops_Exe_11)

Obtaining client feedback at designated milestones enables the determination of specific culture attributes and aids in initiating actions to achieve cultural fit. (Ops_Exe_15)

Enhancers

Understanding the perceptions of clients and end-users on delivered services improves the identification of cultural attributes and aids in determining activities to achieve cultural fit. (Ops_Over_8)

Outputs

Dependent Practices

Achieving cultural fit by customization of services is a means of developing relationships with clients and prospective clients. (Ops_Over_7)

Associated Practices

Knowledge of specific cultural attributes improves the activity of capturing client requirements. (Ops_Exe_1)

Knowledge of specific cultural attributes enables the client interaction team to accurately capture and communicate client requirements to the service design and deployment team. (Ops_Exe_1)

Knowledge of specific cultural attributes enables the identification of suitable personnel to negotiate with clients. (Ppl_Pre_2)

Knowledge of specific cultural attributes enables the designated team to understand prospective client needs. (Ppl_Pre_1)

Knowledge of specific cultural attributes improves the service design, deployment and delivery activities. (Ops_Exe_5, Ops_Exe_14)

Attributes to Measure

Resource consumption

Example Measures

- Resources expended in understanding clients' and end-users' cultural attributes (in cost and person hours)
- Number of training hours provided to those personnel who directly affect client and end-user experience

Effectiveness of cultural fit activities

Example Measures

- Number of customer complaints received attributable to differences in cultural attributes

Org_Exe_3 Level 2

Plan and implement practices to manage risks specific to the contract.

Rationale: A planned approach for managing risk prepares an organization to reduce the impact of risk, through effective mitigation or elimination. A risk management plan provides a client with confidence in an organization's capability to maintain desired service levels.

Inputs

Prerequisites

None

Enhancers

A defined risk-management policy improves the management of risks by providing direction for identifying and managing risks. (Org_Over_10)

Identification and assessment of contract-specific risks at the time of contract formulation improves the ability to manage risks during contract execution. (Ops_Pre_2)

Outputs

Dependent Practices

The project plan to develop the service should contain the risk management plan. (Ops_Exe_3)

Associated Practices

None

Activities for the Organization

1. Identify risks for each contract based on the standards defined in the risk policy.

2. Document the organization's response to identified risks in a risk management plan.

3. Identify the organizational strategy, including elimination, mitigation or acceptance of risk, in the risk management plan.

4. Prepare contingency plans to define responses in case of occurrence of identified risks.

5. Implement the risk management plan.

6. Monitor and track the occurrence of risks and the effectiveness of the risk management plan and the contingency plans.

7. Track, document, and update, any modifications to the risk management plan.

Supplementary Information on Activities

Activity 1. The risks identified that are specific to a contract include technology reliability, inadequate skill pool, security, technology obsolescence, client's default in meeting its responsibilities, inaccurate estimation of delivery schedules, and insufficient resources, such as personnel.

Activity 2. The contents of a risk management plan include resources required, methods for identification, analysis and prioritization of risks, and strategies for managing risks. Schedules for monitoring, and methods for tracking and communicating risk status are also addressed as part of the risk management plan.

Activity 3. 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, buffers in schedules, or providing stand-by resources.

Accepting a risk is acknowledging that an identified risk is inevitable and incorporating its occurrence into the planning process. 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.

Activity 4. Contingency plans are initiated based on previously identified events and covers actions to be taken in case of the occurrence of the identified risk.

Attributes to Measure

<u>Effectiveness of risk management plan</u>

Example Measures

- Number of unidentified risks occurring during service design, deployment, and delivery
- Percentage of identified risks eliminated by implementing the risk management plan
- Percentage of identified risks mitigated by implementing the risk management plan
- Percentage of identified risks accepted in the risk management plan

<u>Relevance of risk management plan</u>

Example Measures

- Frequency of updating the risk management plan

Establish and implement procedures to ensure the continuity of service during contract completion or contract termination.

Rationale: Procedures for service continuity ensure the maintenance of service levels without any disruption during reverse transition to the client. Smooth and efficient hand-over of the service during contract completion or termination provides the foundation for future business relationships with clients.

Inputs

Prerequisites

Procedures for hand-over need to be in place to ensure continuity of service. (Ops_Post_1)

Enhancers

None

Outputs

Dependent Practices

Ensuring continuity of service is key to developing and maintaining relationships with clients. (Org_Over_7)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedure for service continuity, and identify the expected results.

2. Define and document the steps to be taken in ensuring the continuity of service during contract completion or termination. Concurrently, indicate the work products to be generated.

3. Identify and provide the resources required for maintaining the continuity of service.

4. Identify the personnel who will maintain the continuity of service, and define their role and responsibilities. Train and authorize the identified personnel.

5. During contract completion or termination, maintain the levels of service as agreed upon in the contract.

6. Initiate actions to obtain client acceptance on the services delivered and resources transferred. Document the client acceptances.

Supplementary Information on Activities

Activity 2. The steps needed to continue the delivery of service for a specified duration in contract completion or termination are identified, so that clients and their end-users face minimum disruption.

The identified steps are:

Transferring services to another organization or back to the client. Providing the training and resources for maintaining continuity and ensuring smooth hand-over to clients or service providers.

Work products generated include templates for sign-off on services delivered, training material, and other relevant documentation.

Attributes to Measure

Effectiveness of procedure

Example Measures

- Number of instances of disputes with clients on services delivered and resources transferred, during reverse transition
- Client rating on the effectiveness of the service continuity during reverse transitioning

Identify the personnel competencies needed to achieve organizational objectives.

Rationale: An organization needs to identify and build the competencies necessary to meet long-term objectives. Identifying long-term competencies enables an organization to take the steps required for their development.

Inputs

Prerequisites

Defined organizational objectives guide the identification of required competencies. (Org_Over_1)

An analysis of the existing competencies and skills of personnel aids in the identification of required competencies. (Ppl_Over_3)

Information on skill sets transferred to clients aids the identification of required competencies. (Ppl_Post_1)

Information on skills used in client engagements is used to identify required competencies. (KM_Exe_2)

Performance appraisals of personnel aid in identifying required competencies. (Ppl_Exe_3)

Enhancers

None

Outputs

Dependent Practices

Required competencies lay the foundation for competency development planning. (Ppl_Over_2)

Associated Practices

Training is provided to develop required competencies. (Ppl_Over_2)

Activities for the Organization

1. Identify future competency needs based on long-term business objectives.
2. Define and document the steps required for carrying out competency analysis. Use existing personnel competencies and activities as inputs into competency analysis.
3. Identify and train personnel who will carry out competency analysis.
4. Provide adequate resources including data collection and analysis tools.
5. Document and maintain the results of the competency analysis.
6. Map competency needs to existing competencies; gaps that are revealed are considered areas to be developed.
7. Update information regarding the competency needs on a periodic or event-driven basis.

Supplementary Information on Activities

Activity 1. Competency is defined as the combination of knowledge, skills, and capabilities needed by personnel to perform their respective tasks within the organization. The organization's long-term business objectives can include desired competitive position (market share, skill levels), new markets, and new segments to operate in.

Activity 2. The steps required for competency analysis include determining the methods to use for analysis and determining the activities to carry out to do the analysis. Methods include task analysis, positional analysis, analysis of skills needed, and knowledge analysis. Activities include scheduling, obtaining necessary approvals, and reviews.

Activity 3. The personnel who are selected to carry out competency analysis are drawn from across organizational functions, and are trained in collecting and analyzing data using different tools and techniques.

Activity 5. The end results of competency analysis include a current competency matrix, a list of required competencies, and time frames for obtaining the required competencies.

Activity 7. Changes in required competencies can occur due to changes in services, technology, the organization's market strategy, client expectations and competition.

Attributes to Measure

<u>Effectiveness of competency identification</u>

Example Measures

- Percentage of the organizational objectives that are addressed by the competency development plan
- Number of specific competencies identified for development

Develop the personnel competencies which are needed to achieve organizational objectives.

Rationale: An organization needs to build the competencies which are needed in order to meet long-term objectives. The planned development of long-term competencies enables an organization to fulfill short-term goals and objectives successfully. That, in turn, leads to the achievement of long-term objectives.

Inputs

Prerequisites

Competence development plans are generated to achieve defined objectives. (Org_Over_1)

Required competencies are the basis for planning competency development activities. (Ppl_Over_1)

Training is provided to develop identified competencies. (Ppl_Over_4)

Enhancers

Providing personnel opportunities to develop their skills helps in competency development. (Ppl_Over_7)

Outputs

Dependent Practices

Competency development programs involving training are evaluated for their effectiveness. (Ppl_Over_5)

Associated Practices

None

Activities for the Organization

1. Define and document the steps required for the development of needed competencies.
2. Designate the personnel required for developing needed competencies.
3. Identify the personnel who will be included in the competency development plans. Include representation from different functions within the organization.
4. Plan and develop identified competencies in the organization by executing the defined plan.
5. Maintain records of the competency development activities which were carried out for each person.
6. On a predetermined frequency, review the effectiveness of competency development activities and identify actions to be taken.
7. Implement the identified action items and track them to closure.

Supplementary Information on Activities

Activity 1. Steps for the development of needed competencies can include planning, recruiting personnel from external sources, training new or existing personnel, appraising personnel competencies, and reviewing and modifying the plan.

Activity 2. Personnel who are responsible for the development of competencies include human resource professionals, trainers, coaches, mentors, and quality professionals.

Activity 4. The development of identified competencies are carried out through: focused training in specific areas; career planning; on-the-job training; participating in seminars and conferences; training conducted by external organizations; exposing personnel to different levels and functions within the organization; and coaching.

Activity 6. 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

<u>Comprehensiveness</u>

Example Measures

- Percentage of personnel included in the competency development plans
- Average number of hours of competency development activities carried out per personnel identified for competency development in a defined period
- Number of hours of training provided for competency development activities

<u>Effectiveness of competency development</u>

Example Measures

- Rating of effectiveness by personnel included in the plan
- Rating of effectiveness by the organization's management
- Improvement in personnel competence rating as measured during appraisal process

Ppl_Over_3 Level 2

Assign roles and responsibilities to personnel based on appropriate skills.

Rationale: Assigning appropriate personnel to carry out various activities enables an organization to effectively deliver the service. Allocating personnel based on mapping skills to roles improves an organization's ability to meet and exceed client expectations.

Inputs

Prerequisites

None

Enhancers

Defined roles and responsibilities improves the process of appropriately allocating skilled personnel. (Org_Over_2)

Outputs

Dependent Practices

Data on available skills helps to determine human resource requirements. (Org_Over_6)

An inventory of available skills enables the determination of future competency requirements. (Ppl_Over_1)

Determination of training needs is aided by data on available skills. (Ppl_Over_4)

Designation of personnel or teams for various activities in the organization is performed based on this practice. (Ppl_Over_12, Ppl_Pre_2, Ppl_Pre_1, Ppl_Exe_1, Ppl_Exe_2)

The skills inventory serves as a means of maintaining data on skills transferred to and from the client. (Ppl_Post_1)

Competencies and skills related to a contract are captured in the skills inventory. (KM_Exe_2)

Activities for the Organization

1. Identify the skills which are required to perform various activities based on an analysis of organizational roles and responsibilities.
2. Identify and evaluate the personnel for their skills.
3. Assign personnel to defined roles on the basis of their skills.
4. Acquire personnel with requisite skills from external sources, as required.
5. Maintain records of personnel and their skills and keep up to date.

Supplementary Information on Activities

Activity 1. A role is analyzed for required skills 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 experience of the organization or similar organizations.

Activity 2. Personnel skills are identified through structured evaluations, performance reviews, on-the-job evaluations, work experience, and training or education.

Activity 4. An organization acquires skills from external sources when needed skills are not available or cannot be developed in-house.

Activity 5. Records of skills are typically maintained in the form of a skills inventory. Updating the skills inventory will be required when new recruits are hired, when personnel acquire additional experience or qualifications, when roles or responsibilities are redefined, when there are changes in technology, and when new lines of services are provided.

Associated Practices

None

Attributes to Measure

Effectiveness of personnel assignment

Example Measures

- Number of instances of mismatches in personnel assigned compared to required skills for a defined role
- Number of instances of mismatches in personnel assigned compared to required skills for critical roles
- Personnel satisfaction rating with the role assigned

Integrity of skills inventory

Example Measures

- Number of errors identified per audit in skills inventory
- Lag in number of days in updating skills inventory after acquiring the skill

Plan to meet identified needs by providing training or acquiring personnel.

Rationale: Providing adequate training according to a plan enables an organization to develop the skills required to achieve defined performance objectives. An organization needs to provide training or acquire personnel from external sources to meet increased service delivery needs or to compensate for a lack of required competencies.

Inputs

Prerequisites

Defined organizational objectives are used to identify training needed to meet the objectives. (Org_Over_1)

Skills required for various roles and responsibilities are used to determine the training needs and to design the training programs. (Ppl_Over_3)

The identification of client-specific skill requirements is needed to plan and provide required training. (Ppl_Exe_2)

Enhancers

The determination of training needs and training programs is aided by the definition of roles and responsibilities in the organization. (Org_Over_2)

The identification of required competencies aids in defining and implementing training programs. (Ppl_Over_1)

Appraisals of employee or team performance aid in identifying and providing the training required. (Ppl_Over_13)

Outputs

Activities for the Organization

1. Identify the skill requirements based on specific organizational requirements.
2. Analyze existing skills information to determine whether the skill requirements can be developed internally, through training, or if they need to be acquired from external sources.
3. Designate and authorize the personnel required for developing or acquiring skills.
4. Define and document the steps to be taken to acquire skills or to provide training.
5. Design training programs based on the identified needs.
6. Identify, develop, and furnish the materials and tools required for training.
7. Identify and provide adequate resources for conducting the training programs. Identify trainers who have the appropriate skills.
8. Maintain records of training programs, trainers, and trainees, and keep them up to date.
9. Provide training or acquire personnel according to the steps defined and within the defined schedules.
10. At designated intervals, review the training programs for relevance to objectives and modify the program, if required.
11. After training or acquiring personnel, update the information on personnel and their skills in the skills inventory.

Supplementary Information on Activities

Activity 1. Organizational requirements that influence training needs include targeted market sectors; clients; service segments; and performance expectations such as client satisfaction, service levels, and efficiency targets.

Dependent Practices
Adequately trained personnel form an important component of resources to perform service related and support activities. (Org_Over_6)

Training is a means of achieving required cultural fit with clients. (Org_Exe_2)

The evaluation of training effectiveness is performed to ensure that the training meets the identified needs. (Ppl_Over_5)

Associated Practices
None

Activity 5. Training programs include:

Training on the organization, its policies, procedures, and functions for all personnel, given at a level of detail appropriate to their roles and responsibilities.

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 service segments, project management skills, leadership skills, and time management.

Training programs include role-playing, classroom coaching, simulation, on-the-job training, and group exercises.

Activity 6. The materials and tools required include training manuals, work instructions, case studies, and exams on the material which was taught.

Activity 7. 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

Example Measures

- Average number of hours of training provided per person
- Percentage of personnel who are provided with training
- Percentage of identified needs addressed through training programs
- Number of training programs conducted compared to training programs planned

Effectiveness of the training

Example Measures

- Rating of effectiveness by personnel included in the training plan
- Rating of effectiveness by the organization’s management
- Improvement in personnel skills or competence rating as measured during the appraisal process

Effectiveness of the personnel acquisition process

Example Measures

- Percentage of the skills acquired from outside the organization compared to skills developed internally
- Number of personnel acquired to meet specific requirements

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

Rationale: An organization monitors the effectiveness of training to ensure that the personnel trained and deployed are qualified to perform their assigned roles. Evaluation also aids in improving the quality of training and can be used in a cost/benefit analysis of the training program.

Inputs

Prerequisites

The training programs conducted are evaluated for their effectiveness. (Ppl_Over_5)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Based on the training objectives, identify which training attributes to measure in order to evaluate the effectiveness of the training.
2. Assign personnel to evaluate the training programs.
3. Define methods to evaluate the effectiveness of the training, based on an objective criterion.
4. Evaluate the effectiveness of the training.
5. Identify actions to be taken based on the results of evaluation, and track them to closure.

Supplementary Information on Activities

Activity 1. The training attributes that are measured include the training methodology and its applicability, length, and coverage with respect to planned objectives. The effectiveness of the training is demonstrated by increased knowledge, improvement in performing assigned tasks, an increase in productivity, improvement in the quality of work, and improvements in overall organizational performance.

Activity 3. Methods of evaluation include obtaining feedback from the trainee on the trainer, the training material, the training duration, and their ability to perform after training; analyzing the feedback; conducting exams on the material which was taught; measuring the effectiveness of trainees closely at frequent intervals; and obtaining feedback on the quality of trainees from their superiors and trainers.

Activity 4. When evaluating the effectiveness of the training, look at the effectiveness of the trainer in teaching the material; how well the trainee acquired the skills, what methods and tools were used; the comprehensiveness of the course material; and the length of the training.

Activity 5. Actions taken include retraining the trainees, retraining the trainers, replacing trainers, obtaining trainers from outside, modifying the training material and method of training, and making adjustments in the length of the training.

Attributes to Measure

Coverage of the training evaluation

Example Measures

- Number of evaluations on training conducted, compared to total number of training programs conducted
- Number of evaluations per training conducted

Effectiveness of the evaluation

Example Measures

- Number of modifications made to the training course based on findings from the evaluation
- Personnel-hours spent in retraining the trainee or trainer
- Rating of the training program by the trainee

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

Rationale: An adequate and comfortable work environment improves personnel satisfaction and retention. This enables personnel to perform their tasks effectively, thus enabling the organization to meet client requirements consistently.

Inputs

Prerequisites

Timely access to required information is key to an effective work environment. (KM_Over_5)

Enhancers

Defined roles and responsibilities aid in the design of physical work environment. (Org_Over_2)

Providing adequate resources leads to an effective work environment. (Org_Over_6)

Feedback from personnel helps to improve the work environment. (Ppl_Over_10)

Outputs

Dependent Practices

An effective work environment is required to establish a participatory work culture. (Ppl_Over_8)

An effective work environment is essential for supporting innovation. (Ppl_Over_11)

Associated Practices

None

Activities for the Organization

1. Identify the characteristics of the work environment that impact work effectiveness and the factors that affect personnel.
2. Identify the physical requirements of the work environment.
3. Consider the characteristics that impact work effectiveness when developing organizational procedures and policies.
4. Identify and provide the resources that are required to establish and maintain an effective work environment.
5. Identify the personnel who will establish and maintain the work environment. Train and adequately authorize the identified personnel.
6. Design and provide a physical work environment which will meet the identified requirements.
7. Verify the condition of the work environment at frequent intervals and implement necessary corrective or improvement actions.

Supplementary Information on Activities

Activity 1. Characteristics relating to the work environment include the corporate culture, such as an open door policy regarding communication, and communication mechanisms such as escalation hierarchy and grievance handling.

Activity 2. The physical requirements of the work environment are identified from the service design, industry norms, statutory or regulatory requirements, and requirements from the client. Factors that affect personnel include excessive noise; inadequate physical necessities, such as air and water quality; improper ergonomics; and poor lighting.

Activity 6. The physical environment includes individual and public spaces and amenities such as storage, air-conditioning, water, light, safety, rest rooms, and food. Public spaces include space for meetings, training, canteens, and recreation.

Activity 7. Verification of the quality of the work environment is carried out through soliciting feedback from personnel, by inspections, and by comparison with industry norms.

Attributes to Measure

Adequacy of workspace

Example Measures

- Personal workspace allocated per individual
- Total space allocated per individual

Quality of work environment

Example Measures

- Rating by personnel on the work environment
- Number of grievances from personnel on the work environment
- Number of injuries and disabilities attributable to deficiencies in the work environment

Effectiveness of work environment monitoring

Example Measures

- Number of improvement activities initiated based on personnel feedback or monitoring activities

Provide personnel with opportunities to develop the skills they need for their career development.

Rationale: The ability to develop and retain personnel who have 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 them to develop their skills and knowledge.

Inputs

Prerequisites

Career paths and personal development plans are aligned with organizational objectives. (Org_Over_1)

Defined roles and responsibilities enable the identification of career paths. (Org_Over_2)

An organization needs to align new skills which are gained by personnel for their own career development with the competency requirements of the organization. (Ppl_Over_1)

Feedback from personnel on their satisfaction with career development opportunities provides direction for organization improvements. (Ppl_Over_10)

Enhancers

None

Outputs

Dependent Practices

Providing personnel with defined career paths and opportunities for growth encourages entrepreneurship and innovation. (Ppl_Over_11)

Associated Practices

None

Activities for the Organization

1. Identify lateral and vertical career paths for personnel in the organization, ensuring that the paths identified are in line with organizational objectives.
2. Identify management personnel across the organization's functions who will coordinate the career development activities.
3. Inform personnel of the organization's defined career path and involve them in defining their own career aspiration.
4. Guide personnel through identified career paths.
5. Prepare personal development plans for individuals to address their career and learning objectives.
6. Align the development plans with organizational competency requirements.
7. Provide personnel with opportunities for training and other development activities, according to the plan.
8. Document and track progress with respect to individual development plans. If an individual is excluded from career planning activities, give reasons, and document the interaction.

Supplementary Information on Activities

Activity 1. Career paths include moving up the organization's hierarchy with additional responsibilities or moving into a different function within the organization.

Activity 5. Information in a personal development plan include career objectives, career paths to achieve those objectives, skills needed to progress toward the career objectives, skills required for potential next assignments, a plan for developing the skills required for potential next assignments, and other development activities, such as professional growth.

Activity 8. The progress of an individual through a development 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

Comprehensiveness

Example Measures

- Percentage of personnel covered by a career development plan
- Average number of hours spent on career development activities per person identified

Effectiveness of career development opportunities

Example Measures

- Rating of effectiveness by personnel on career development opportunities in the organization
- Improvement in personnel competency rating as measured during appraisal process
- Retention rate of personnel
- Rating of effectiveness by organizational management

Ppl_Over_8 Level 3

Establish and implement procedures that enable individuals and teams to participate in decisions that affect their work commitments.

Rationale: Establishing procedures that encourage personnel to participate in decision-making improves the quality of decisions by including the knowledge which individuals have. This also motivates personnel and encourages their buy-in to meeting work commitments.

Inputs

Prerequisites

Defined organizational roles and responsibilities aid in identifying the relevant functions and levels of personnel which are required to participate in different types of decisions. (Org_Over_2)

Enhancers

Proactive feedback from personnel on their satisfaction and motivation aids in improving the participatory decision-making process. (Ppl_Over_10)

Outputs

Dependent Practices

This practice enables innovation and entrepreneurship, since the personnel have a buy-in to work commitments. (Ppl_Over_11)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures that enable personnel to participate in decision-making, and identify expected results.
2. Define and document the steps to be taken to enable personnel and teams to participate in decisions. Concurrently, indicate the work products to be generated at each step defined.
3. Ensure that the procedure categorizes the types of decisions to be taken and also defines appropriate decision-making methods. The procedure also defines the levels and roles of personnel involved in decisions.
4. Identify and provide the resources, including tools, to access and analyze the information required to enable personnel and teams to participate in decisions.
5. Facilitate decision-making at appropriate levels across the organization.
6. Ensure that personnel have access to the information, including historical data, which is required to make decisions that affect their work commitments.
7. Train personnel to estimate resources, schedule, and effort required to complete the specific activities related to their work commitments.
8. Communicate to the personnel that are affected by the decisions the rationale for decisions made.
9. Get feedback from personnel and teams regarding the decision-making procedures and work commitments, and analyze it for actions to be taken.
10. Enable personnel and teams to take responsibility for achieving their commitments.
11. Involve personnel and teams, as necessary, in reviewing the progress against commitments and in revising commitments.

Supplementary Information on Activities

Activity 5. Decisions affecting work commitments include deciding schedules, resources required, scope of commitments, and technology changes. The steps include personnel and teams reviewing the scope of work for feasibility and making decisions according to the defined procedures.

Activity 7. Information regarding work includes client information, scope of the contract, delivery schedule, preliminary resource estimates, relevant historical data, organizational objectives, performance objectives, client satisfaction survey results, and knowledge about clients and end-users. The historical data may be derived from previous contracts executed for the client or similar contracts executed for different clients.

Activity 8. Based on the feedback from personnel or teams, the scope of the work can be adjusted, delivery schedules may be changed, and resources may be augmented.

Attributes to Measure

<u>Comprehensiveness of the procedure</u>

Example Measures

- Number of formal interactions conducted to involve personnel in the decision-making process

<u>Effectiveness of enabling personnel to participate in decisions</u>

Example Measures

- Rating by personnel on the extent of their involvement in the decision-making process
- Number of instances of revisions made to commitments attributable to not having the right personnel involved in the decision-making
- Rating on adequacy and availability of information required to make decisions by personnel

Define and implement a reward system that encourages the achievement of organizational objectives.

Rationale: An organization that wants to better achieve its objectives needs to focus on motivating its personnel. Rewarding personnel for performance and achievement enables the organization to retain skills that are critical for achieving organizational objectives.

Inputs

Prerequisites

Roles and responsibilities need to be defined in order to implement a reward system. (Org_Exe_2)

Results from performance appraisals provide input into the reward system. (Ppl_Over_13)

Client feedback provides input into the reward system. (Ops_Exe_18)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Define the attributes and criteria for a reward system.

2. Develop and document the reward system and communicate it to appropriate personnel.

3. Identify the personnel who will develop and administer the reward system, and define their roles, responsibilities, and authority.

4. Obtain personnel performance results from performance appraisals or from data collected on personnel and team performance. Select personnel or teams to be rewarded based on the defined criteria.

5. Reward the personnel and teams based on the established system.

6. Get feedback from personnel on the effectiveness of the reward system in order to identify and incorporate changes.

Supplementary Information on Activities

Activity 1. A reward system can be developed based on inputs from experts and feedback from personnel. Approaches to reward systems include profit sharing and changes in compensation. The criteria 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.

Activity 4. The means of rewarding may include cash awards, plaques, certificates, promotions, additional responsibilities and authorities, gift items, public recognition, trips, and celebrations.

Attributes to Measure

Comprehensiveness of the reward system

Example Measures

- Percentage of personnel covered by the reward system
- Variation in number of personnel covered across organizational levels and functions
- Percentage of performance criteria addressed by the reward system

Effectiveness of the reward system

Example Measures

- Rating by personnel on the effectiveness of the reward system
- Employee retention rate
- Percentage of performance objectives accomplished at individual and team level
- Percentage of compensation linked to performance

Get feedback from personnel and utilize it for organizational improvement.

Rationale: Feedback from personnel enables an organization to make organizational improvement decisions which incorporate personnel knowledge and experiences. This motivates personnel, and facilitates getting their commitment to decisions. This results in effective organizational decision-making.

Inputs

Prerequisites

None

Enhancers

None

Outputs

Dependent Practices

Personnel feedback on satisfaction and motivation aids in defining and providing opportunities for career development. (Ppl_Over_7)

An organization uses feedback from personnel to develop effective methods for supporting innovation and entrepreneurship. (Ppl_Over_11)

Identifying potential problems is aided by proactively getting feedback from personnel. (Ops_Over_5)

Associated Practices

Feedback from personnel helps improve the system by enabling personnel to participate in decisions. (Ppl_Over_8)

Findings from personnel feedback aid in identifying problems and taking appropriate remedial action. (Ops_Over_4)

Activities for the Organization

1. Identify and update the factors that affect organizational improvement. From these factors, derive key issues that require personnel feedback.

2. Proactively define appropriate methods to get feedback from personnel. Define the frequency and type of feedback to be obtained. Define the steps to be taken in getting feedback from personnel.

3. Proactively get feedback from personnel on the identified key issues, according to the defined steps and methods.

4. Analyze the feedback findings to identify areas for improvement in the organization.

5. Generate appropriate action plans and track them to closure. Document the findings and actions taken.

6. Define and establish mechanisms for resolving personnel problems. Communicate the action plans and proposed solutions to personnel who are affected.

Supplementary Information on Activities

Activity 1. Factors that affect organizational improvement include organizational policies and procedures; contract-related activities; organizational roles, responsibilities, and authority; technology infrastructure; work environment; work assigned; commitments; and personnel policies.

Key issues are defined as the characteristics of the factors that affect organizational improvement, such as the adequacy and currentness of the organizational policies and procedures; the usability of process specifications; and the effectiveness of quality specifications.

Key issues in the work assigned include type of work, quantity of work, time required for completion, adequacy and usability of technology infrastructure, quality and currentness of information available for carrying out assigned activities, and adequacy and relevance of training received.

Activity 2. Methods for getting feedback from personnel include organizational environment surveys, discussions with management, contract kick-off meetings, feasibility studies before submission of proposals, suggestion boxes, open door policies, and personnel meetings on specific issues.

Attributes to Measure

Comprehensiveness of feedback system

Example Measures

- Number of feedback activities held
- Out of total organization, how many people were asked for feedback

Effectiveness of personnel feedback system

Example Measures

- Rating by personnel on effectiveness of the feedback system
- Number of suggestions received per employee
- Percentage of improvement suggestions implemented
- Number of personnel problems resolved
- Measure of satisfaction of the personnel with the feedback system

Support innovation and entrepreneurship by personnel in their approach to achieving organizational objectives.

Rationale: Encouraging personnel to adopt innovative approaches for achieving organizational objectives leads to breakthrough improvements in the organization's performance. Organizations can utilize process and service innovations to deliver improved value to their clients.

Inputs

Prerequisites

Build flexibility into the organizational structure regarding delegation of authority. (Org_Over_2)

Information on lessons learned from performance reviews aid personnel in adopting innovative approaches. (Org_Over_5)

By enabling participatory decision-making, personnel are encouraged to contribute innovative approaches to achieve team goals. (Ppl_Over_8)

Feedback from personnel aids in developing effective methods to support innovation and entrepreneurship. (Ppl_Over_10)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Describe the purpose of supporting innovation and entrepreneurship by personnel, and identify expected results.
2. Define and document the steps to be taken for supporting innovation and entrepreneurship by personnel.
3. Identify and encourage personnel who demonstrate initiative and willingness to improvise.
4. Provide personnel with the flexibility to choose the approach for achieving assigned objectives. Establish personnel policies that give the decision-making power to the people who are actually doing the job.
5. Support innovation and entrepreneurship through the organization's compensation and reward system. Implement a specific reward mechanism that recognizes and encourages innovative approaches by personnel.
6. Identify and provide the resources which are required to support innovation and entrepreneurship by personnel.
7. Identify personnel who will administer and support innovation and entrepreneurship, and define their roles and responsibilities. Train and authorize the identified personnel.
8. Support innovation and entrepreneurship by personnel.
9. Recognize and publish information on innovative approaches adopted.

Supplementary Information on Activities

Activity 1. Examples of innovations can include new management techniques, quality improvement initiatives, process improvement initiatives, new tools, and new approachs towards client interactions and relationship management.

Activity 4. Flexibility can be provided to personnel by delegating authority to them, by defining flexible roles and responsibilities, and by reducing the frequency of supervision.

Activity 5. Support innovation and entrepreneurship through a combination of base salary, performance-linked incentives, and other rewards. Rewards can be monetary, public recognition, and assigning additional responsibilities and authority.

Activity 6. Training can be provided to supervisory personnel on how to handle failures of subordinates, so that innovation is still encouraged.

Attributes to Measure

Effectiveness of procedure

Example Measures

- Number of formal efforts to communicate innovations across the organization
- Number of innovative approaches recognized by the organization
- Average time spent in getting approvals for adoption of an innovative approach

Benefits from innovative approaches

Example Measures

- Percentage reduction in response time to meet client requirements
- Percentage reduction in time or effort taken to design and deploy a service
- Percentage reduction in time or effort taken to deliver services
- Percentage improvement in personnel satisfaction rating
- Percentage improvement in client satisfaction rating

Designate a team responsible for monitoring technological innovations and introducing appropriate technologies into the organization.

Rationale: The designation of an appropriately qualified and trained team provides focus to the technology-monitoring activities in an organization. The adoption of appropriate technology enables an organization to improve the effectiveness and efficiency of its activities: this leads to enhanced levels of service.

Inputs

Prerequisites

Defined roles and responsibilities aid in identifying personnel and providing appropriate authority. (Org_Over_2)

Information on available skills aids in selecting appropriately qualified personnel. (Ppl_Over_3)

Enhancers

Appraisals aid in evaluating team performance. (Ppl_Over_13)

Outputs

Dependent Practices

Monitoring technology innovations aids in benchmarking technology infrastructure. (KM_Over_4)

The designated technology monitoring team identifies and introduces appropriate technology. (Tech_Over_4)

Associated Practices

None

Activities for the Organization

1. Identify the attributes to be considered when selecting personnel to monitor technological innovations.
2. Designate personnel in the team based on the identified attributes, and define their roles and responsibilities.
3. Train the personnel in the team to keep track of technological innovations and to introduce technology. Assign the team appropriate authority.
4. Identify and document the activities to be carried out by the team, including reporting to higher management on technology to be introduced.
5. Provide the team access to resources, including information required to carry out assigned activities.

Supplementary Information on Activities

Activity 3. Membership in professional organizations, subscriptions to technical and academic journals and newsletters, and interactions with technology vendors, are used to keep track of technology innovations.

Designated personnel receive training on the organization's current technology infrastructure; analytical and decision support methods, including cost benefit analysis; technology trends; and technology transitioning.

Attributes to Measure

Effectiveness of team

Example Measures

- Number of technology innovations identified
- Percentage of successful technology introductions compared to total technology introductions
- Percentage of technology innovations introduced compared to those identified and suggested for implementation

Establish and implement procedures for appraising individual and team performance.

Rationale: Performance appraisals provide an opportunity to identify the strengths and weaknesses of individuals and teams, and plan for personnel development. Appraisals also provide input to individuals for self-development.

Inputs

Prerequisites

Tracking service design, deployment, and delivery activities provides direction for measuring employee and team performance. (Ops_Exe_6, Ops_Exe_15)

Monitoring service performance enables appraising performance. (Ops_Exe_16)

Analysis of resources consumed aids in appraising performance. (KM_Exe_3)

Enhancers

None

Outputs

Dependent Practices

Appraisal results are used for rewarding personnel. (Ppl_Over_9)

Appraisal findings are used for identifying competencies that need to be developed. (Ppl_Over_1)

Associated Practices

Results of performance appraisals improve the identification of training needs. (Ppl_Over_4)

Results of performance appraisals enables assigning suitable personnel to teams. (Ppl_Pre_1, Ppl_Pre_2, Ppl_Exe_1)

Activities for the Organization

1. Describe the purpose of implementing procedures for performance appraisals, and identify the expected results.
2. Define and document the steps to be taken in appraising individual and team performance. Concurrently, indicate the work products to be generated at each step.
3. Define and document the criteria and the frequency of performance appraisals. Establish performance measures at individual and team levels.
4. Communicate the defined criteria and frequency of performance appraisals to the organization’s personnel.
5. Get feedback and obtain commitment from individuals and teams on the defined criteria and performance measures.
6. Identify and provide adequate resources for conducting performance appraisals.
7. Identify the personnel who will carry out performance appraisals, and define their roles and responsibilities. Train and authorize the identified personnel.
8. Provide the identified personnel access to information on the criteria and performance measures of relevant individuals and teams.
9. Conduct the performance appraisals at a defined frequency, according to the steps defined. Document the results of performance appraisals for individuals and teams.
10. Analyze the results and identify necessary actions to be taken. Communicate the results to respective individuals and teams, and discuss the actions identified. Track to closure the actions discussed and agreed upon.
11. At designated intervals, review and update the criteria and the performance measures.

Supplementary Information on Activities

Activity 3. Performance measures include productivity or efficiency, quality of the work, attendance, punctuality, job knowledge, learning ability, initiative taken, leadership, adaptability, communication skills, and interpersonal skills.

Objective criteria include performance goals, achievement of specific service levels, achievement of specific quality ratings, and achievement of productivity or efficiency targets.

Activity 10. 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

<u>Comprehensiveness of the appraisal system</u>

Example Measures

- Percentage of performance criteria that are quantifiable
- Percentage of personnel covered by the appraisal system

<u>Effectiveness of the appraisal system</u>

Example Measures

- Rating by personnel on effectiveness of the appraisal system
- Employee retention rate
- Percentage of appraisals conducted on schedule
- Number of personnel development plans initiated on the basis of appraisal
- Percentage of performance objectives accomplished at individual and team level

Ppl_Pre_1 Level 2

Designate teams to understand the prospective client's requirements and position the organization's capabilities.

Rationale: Forming a client interaction team by involving personnel who have knowledge of the market sector, service segment, and the client or prospective client, enables an organization to understand a client's needs clearly and comprehensively. The formation of relationships with a client depends on the organization's ability to offer a value proposition.

Inputs

Prerequisites

Information on skills available enables selecting suitable personnel for the client interaction team. (Ppl_Over_3)

Enhancers

Defined roles and responsibilities enables selecting appropriate personnel for the client interaction team. (Org_Over_2)

Appraisals aid in evaluating individual and team performance. (Ppl_Over_13)

Market information about prospective clients aid in identifying suitable personnel for the client interaction team. (KM_Pre_2)

Outputs

Dependent Practices

The client interaction team communicates client requirements and proposed solutions to the service design and deployment team. (Org_Exe_1)

The designated client interaction team is required to accurately and comprehensively capture client requirements. (Ops_Pre_1)

The client interaction team captures the client's requirements. (KM_Pre_1)

Activities for the Organization

1. Identify the attributes to be considered when selecting personnel who will understand the client's requirements and position the organization's capabilities.
2. Assign personnel to the client interaction team based on the identified attributes, and define their roles and responsibilities.
3. Define the authority of the personnel who will be involved in proposing a solution to the client.
4. Train the personnel assigned to the client interaction team.
5. Evaluate the performance of personnel assigned to the client interaction team.

Supplementary Information on Activities

Activity 1. Attributes to be considered in choosing personnel for interacting with, and proposing solutions to, clients include segment expertise, sector expertise, communication skills, listening skills, comprehension skills, relationship management skills, and crisis handling skills.

Activity 4. Training may be provided on some or all of the above factors.

Activity 5. Team and personnel performance will be evaluated based on feedback received from the client and internal feedback from the service design and development team.

Associated Practices

The client interaction team provides information on collecting and disseminating knowledge about clients and end-users. (Org_Over_9)

Personnel from the client interaction team should form a part of the negotiation team to maintain continuity. (Ppl_Pre_2)

Attributes to Measure

Composition of team

Example Measures

- Number of changes in the composition of the client interaction team per client engagement

Effectiveness of team

Example Measures

- Percentage of proposals converted into firm agreements
- Rating by clients on quality of solution proposed
- Response time of client interaction team for addressing clarifications raised by service design team
- Number of clarifications and modifications to service attributable to inadequate or incorrect requirements captured

Ppl_Pre_2 Level 2

Designate a team to negotiate with clients.

Rationale: Forming a negotiation team comprised of personnel having knowledge of the market sector, service segment, and clients, ensures a level of preparedness that is essential for framing successful outsourcing contracts. Furthermore, maintaining a designated team ensures continuity in client interactions, leading to effective client relationship management.

Inputs

Prerequisites

The negotiation team follows the contracting procedures in reaching an agreement with the client. (Org_Pre_3)

Information on personnel skills aids in designating negotiation teams. (Ppl_Over_3)

Procedures for capturing client interactions ensure that negotiations are comprehensive and the issues properly documented. (Ops_Over_3)

Client requirements are used for designating negotiation teams and for conducting negotiations. (Ops_Pre_1)

Identification of key issues requiring client agreement is essential to designate suitable personnel for negotiations. (Ops_Pre_7)

Enhancers

Defined roles and responsibilities aid in identifying suitable personnel for negotiations. (Org_Over_2)

Personnel from the client interaction team should form a part of the negotiation team to ensure continuity. (Ppl_Pre_1)

Appraisals are used for evaluating team performance. (Ppl_Over_13)

Activities for the Organization

1. Identify the attributes to be considered when selecting personnel to negotiate.
2. Assign personnel to the negotiation team based on the identified attributes, and define their roles and responsibilities.
3. Train the personnel assigned to the negotiation team.
4. Define the authority of personnel involved in negotiating with the client.
5. Evaluate the performance of personnel assigned to the negotiation team.
6. Maintain documented information from previous negotiations on personnel and team performance.

Supplementary Information on Activities

Activity 1. 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.

Activity 3. Training is provided on some or all of the above attributes.

Activity 5. Personnel and team performance is evaluated based on client feedback, internal feedback, and their success rate on key issues.

Activity 6. Maintain information from previous negotiations such as team composition, minutes of meetings, key issues negotiated, and rate of success.

Market information about prospective clients enables the selection of suitable personnel for negotiations. (KM_Pre_2)

Outputs

Dependent Practices

Smooth handling of negotiations aid in developing relationships with clients. (Org_Over_7)

Experiences from negotiations provides direction for collecting and disseminating knowledge about clients and end-users. (Org_Over_9)

The knowledge gained from previous negotiation experiences are used as a basis for formulating negotiation guidelines. (Org_Pre_1)

Associated Practices

None

Attributes to Measure

Composition of team

Example Measures

- Number of personnel designated per negotiation
- Number of changes in the designated negotiation team

Effectiveness of team

Example Measures

- Percentage of key issues on which agreement was reached during negotiations
- Percentage of negotiations converted into formal contracts
- Response time of negotiation team for addressing clarifications asked by the client

Designate personnel or teams to design and deploy the service according to client requirements.

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

Inputs

Prerequisites

Effective communication of client requirements enables designating appropriate personnel for design and deployment. (Org_Exe_1)

Information on personnel skills aids in designating appropriate personnel to design and deploy the service. (Ppl_Over_3)

Identifying skills assists in designating appropriate personnel for service design and deployment. (Ppl_Exe_2)

Personnel are designated for service design and deployment based on the client requirements captured. (Ops_Pre_1)

Enhancers

Defined roles and responsibilities aid in designating appropriate personnel for service design and deployment. (Org_Over_2)

Knowledge of required cultural attributes enables the identification of suitable personnel for designing and deploying the service. (Org_Exe_2)

Appraisals aid in evaluating the team performance. (Ppl_Over_13)

Procedures for service design and deployment provide direction for designating suitable teams in a systematic manner. (Ops_Exe_2)

Activities for the Organization

1. Identify the attributes to be considered when selecting personnel who will understand the client's requirements, and design and deploy the service.
2. Assign personnel to the team based on the identified attributes, and define their roles and responsibilities. Also, identify the personnel who will coordinate and control the service design and deployment activities.
3. Communicate to the personnel or teams the performance expectations that were committed to the client.
4. Provide appropriate training to the personnel.
5. Identify and document contact people from different organizational functions or from external sources which affect the service design and deployment.
6. Identify and document the communication mechanisms, including those for reporting and escalation.
7. Evaluate the performance of designated personnel and teams.

Supplementary Information on Activities

Activity 1. Attributes to be considered in selecting the personnel for service design and deployment include market sector and service segment expertise, communication skills, learning ability, adaptability, crisis management skills, time management ability, and work allocation skills.

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

Activity 3. Performance expectations include service levels, service design and deployment milestones, service delivery milestones, and error limits.

Outputs

Dependent Practices

Service design and deployment teams develop service specifications, and design and deploy the service. (Ops_Exe_2, Ops_Exe_3, Ops_Exe_6)

Associated Practices

None

Activity 4. Training for the design and deployment team includes usage of estimation and planning techniques; tools to be used in design and deployment activities, including technology infrastructure; and methods to track and control the activities.

Activity 5. Contact people 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.

Attributes to Measure

Composition of team

Example Measures

- Number of personnel designated for service design and deployment per client engagement
- Number of changes made in the designated service design and deployment team during the activities of designing and deploying the services

Effectiveness of team

Example Measures

- Number of defects identified or changes made in service design, during service deployment and delivery
- Number of clarifications requested on the service design during service deployment and delivery
- Average time taken for service design and deployment

Ppl_Exe_2 Level 2

Identify the skills which are needed to meet specific client requirements.

Rationale: An organization needs to develop the skills required by the contract in order to successfully deliver a service that meets the commitments made to clients.

Inputs

Prerequisites

The existing skills inventory is analyzed for availability of skills required to meet specific client requirements. (Ppl_Over_3)

Client-specified confidentiality and security requirements are used to identify required skills. (Ops_Over_6)

Client requirements are used to identify required skills. (Ops_Pre_1)

Client specified statutory and regulatory requirements are used to identify required skills. (Ops_Pre_3)

Enhancers

Client specific requirements for cultural fit are used to identify required skills. (Org_Exe_2)

Outputs

Dependent Practices

Training is provided to develop required skills. (Ppl_Over_4)

Competencies developed to meet specific client requirements are captured. (KM_Exe_2)

Associated Practices

None

Activities for the Organization

1. Identify the skills needed based on an analysis of client requirements.
2. Analyze the organization's skill inventory to match available skills to those identified for meeting client requirements. Identify additional skills required.
3. Develop the identified skills either through training or by acquiring from external sources.

Supplementary Information on Activities

Activity 1. Client requirements are analyzed in order to identify the specific skills needed for design, deployment, delivery, training, and transitioning the contracted services. The skills required will also be explicitly specified by the client and would include knowledge of specific tools, software applications, and cultural aspects.

Activity 3. Acquiring skills from external sources can either be done by hiring new personnel or by subcontracting the activity which requires the identified skill.

Attributes to Measure

Effectiveness of skill identification

Example Measures

- Number of specific skills identified that require developing in order to meet client requirements
- Number of instances of mismatches in identified skills compared to required skills
- Number of instances of mismatches in identified skills compared to required skills for critical roles

Ppl_Post_1 Level 2

Maintain an inventory of skills which are being transferred to the client during reverse transition.

Rationale: Tracking skills that are transferred back to a client aids in smooth hand-over after contract completion or termination. This also enables an organization to initiate steps for replacing transferred skills, if required.

Inputs

Prerequisites

The contract should specify the skills to be transferred to the client. (Org_Pre_3)

The service specification provides requirements on skills to be transferred to the client. (Ops_Exe_2)

Tracking the resources supplied by the client provides information on skills to be transferred to the client. (Ops_Exe_13)

Skills are transferred back to the client in accordance with the procedures for handover. (Ops_Post_1)

Enhancers

None

Outputs

Dependent Practices

The skills inventory is updated to keep track of skills transferred to the client. (Ppl_Over_2)

Associated Practices

None

Activities for the Organization

1. Define and document the steps involved in transferring skills back to the client.
2. Designate and authorize personnel to approve transfer of skills.
3. Transfer skills back to the client as specified in the contract.
4. Obtain documented client acceptance for skills transferred back, as specified in the contract.
5. Document the skills transferred, and update the organization’s skills inventory.
6. Analyze the skills inventory to identify requirements for acquiring skills transferred to the client.

Supplementary Information on Activities

Activity 1. Steps involved in transferring skills back to the client include identification of skills to be transferred; obtaining necessary approvals and clearances; creating monitoring mechanisms which ensure a smooth transfer and provide a channel for handling disputes; defining escalation methods; and relocation activities of personnel, if required.

Activity 6. An analysis of the skills inventory after transferring identified skills to the client will cover the type of skills transferred; continuing utility of the transferred skills to the organization; specificity and availability of the skills transferred; impact of the loss of skills on an organization’s performance; and number and profile of the skilled personnel needed to replace the transferred skills.

Attributes to Measure

Effectiveness of reverse transition of skills

Example Measures

- Number of client complaints on skills transferred
- Number of skill replacement actions initiated based on analysis of skills transferred

Integrity of skills inventory

Example Measures

- Number of errors identified per audit, in skills inventory
- Delay in updating skills inventory after transfer of skills to the client (measured in days)

Ops_Over_1 Level 2

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

Rationale: An organization needs to select capable subcontractors and vendors, since an organization's capability to serve its clients is directly impacted by the performance of its subcontractors and vendors. Capable subcontractors and vendors ensure consistency in meeting client requirements and service levels.

Inputs

Prerequisites

Defined skill requirements for specific client engagements enable the selection of suitable subcontractors and vendors. (Ppl_Exe_2)

Selected subcontractors and vendors should meet client requirements for security and confidentiality. (Ops_Over_6)

The service specification is the basis for identifying performance requirements for subcontractors and vendors. (Ops_Exe_2)

Selected subcontractors and vendors should meet applicable statutory and regulatory requirements. (Ops_Pre_3)

The project plan identifies the requirement for subcontractors and vendors. (Ops_Exe_3)

Procedures for technology acquisition provide guidance for selecting vendors. (Tech_Over_3)

Enhancers

Definition of the effort and the time frame for acquiring technology improves the process of identifying suitable vendors. (Tech_Pre_1)

Activities for the Organization

1. Describe the purpose of implementing procedures for selecting subcontractors and vendors, and identify expected results.
2. Define and document the steps to be taken in selecting subcontractors and vendors. Concurrently, indicate the work products to be generated at each step.
3. Define selection criteria for subcontractors and vendors.
4. Identify and provide the resources required for the selection process.
5. Identify the personnel who will select subcontractors and vendors, and define their roles and responsibilities. Train and authorize identified personnel.
6. Collect information on prospective subcontractors and vendors and their capabilities.
7. Evaluate the capabilities of prospective subcontractors and vendors.
8. Select subcontractors and vendors based on the defined selection criteria.
9. Establish and maintain a formal agreement with the subcontractors and vendors who have been selected.
10. Maintain records indicating which specific services or products subcontractors or vendors have been approved to provide.

Identifying the required technology provides information for selecting suitable vendors. (Tech_Over_4)

Outputs

Dependent Practices

Performance monitoring is done on selected subcontractors and vendors. (Ops_Over_2)

Service expectations are communicated to selected subcontractors and vendors. (Ops_Exe_4)

Associated Practices

None

Supplementary Information on Activities

Activity 2. The steps for selection include identifying the requirements to be met by the subcontractors and vendors based on the service levels to be met, and due-diligence. Work products used in selecting subcontractors and vendors include templates for collecting required information, questionnaires, formats for Request for Information (RFI) and Request for Proposal (RFP), and a capability evaluation template.

Activity 6. The organization collects information about subcontractor and vendor capabilities by performing market studies and surveys, using structured questionnaires, conducting scheduled meetings, and making site visits. Other capabilities that an organization considers include track record; capability to deliver required quality; capability to meet delivery schedules; pricing; referrals from their past clients; personnel skills, including organizational and project management skills; management systems; financial status; and infrastructure, including redundancies.

Activity 8. 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.

Activity 10. The records kept on subcontractors and vendors include all documents relating to the above mentioned capabilities, evaluation records, and interactions.

Attributes to Measure

Coverage of procedure

Example Measures

- Number of subcontractors or vendors identified for evaluation
- Number of subcontractors or vendors selected compared to those evaluated

Coverage of procedure

Example Measures

- Percentage of subcontractors or vendors undergoing remedial action based on the organization's monitoring activity
- Percentage of subcontractors or vendors given preferential status based on the monitoring activity
- Discrepancy between actual time and cost of service design and deployment, compared to the plan, attributable to subcontractor or vendor not meeting their commitments

Ops_Over_2 Level 2

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

Rationale: Regular monitoring of subcontractors and vendors against their commitments enables an organization to identify deviations in performance and take appropriate remedial action. This enables an organization to meet service level commitments to clients, since its own performance is affected by the performance of subcontractors and vendors.

Inputs

Prerequisites

The criteria for selection include agreed upon commitments and monitoring. (Ops_Over_1)

Service expectations communicated to subcontractors and vendors are used as the basis for monitoring. (Ops_Exe_4)

Defined quality specifications are used as basis for monitoring. (Ops_Exe_8)

Enhancers

Monitoring the performance of the technology infrastructure aids in monitoring the performance of the vendors. (Tech_Exe_2)

Outputs

Dependent Practices

Monitoring subcontractors and vendors aids in identifying problems and providing remediation. (Ops_Over_4)

Subcontractor and vendor performance is monitored as a part of tracking service delivery activities against the plan. (Ops_Exe_15)

Monitoring subcontractors and vendors enables monitoring the quality of service. (Ops_Exe_16)

Associated Practices

None

Activities for the Organization

1. Identify steps to be taken for monitoring subcontractors and vendors.
2. Ensure that the nature of the monitoring is based on predefined criteria.
3. Monitor the quality of the service or product along with delivery commitments at designated milestones for all contracts.
4. Aggregate and analyze the results of the monitoring for all contracts.
5. Communicate the methods and results of the monitoring to subcontractors and vendors.
6. Take appropriate action towards subcontractors and vendors based on the results of the analysis.

Supplementary Information on Activities

Activity 1. Steps in monitoring include identifying areas to monitor; reviewing defined performance measures, sources of measures, and criteria for evaluating performance; allocating personnel; and defining the frequency of monitoring. The monitoring can be 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 2. The nature and level of monitoring depends on the kind of service or product, and prior experience with the subcontractor or vendor.

Activity 5. The actions taken based on monitoring include awarding additional contracts, reducing the amount of work subcontracted, increasing or decreasing the frequency of monitoring, and providing additional training to subcontractors.

Attributes to Measure

Effectiveness of monitoring

Example Measures

- Number of client complaints attributable to subcontractor or vendor performance
- Percentage of defaults in meeting service levels attributable to subcontractor or vendor performance compared to total defaults
- Percentage of monitoring activity carried out according to the plan
- Number of action items identified per subcontractor or vendor by monitoring them
- Actual compared to planned time and cost for service design and deployment, attributable to a subcontractor or vendor not meeting commitments

Resource consumption

Example Measures

- Person hours spent in monitoring a subcontractor or vendor

Ops_Over_3 Level 2

Establish and implement procedures for capturing interactions with clients.

Rationale: Capturing client interactions aids in clearly understanding the client's needs and coordinating service design, deployment and delivery. This enables an organization to effectively meet client requirements. It also provides documentary evidence for problem analysis in case disputes occur.

Inputs

Prerequisites

The designated client interaction team captures client interactions. (Ppl_Pre_2)

Enhancers

None

Outputs

Dependent Practices

Documenting interactions with clients aids in understanding client perceptions. (Org_Over_8)

Documented client interactions are a source of knowledge of clients and end-users. (Org_Over_9)

Documented client interactions aid in capturing client requirements effectively. (Ops_Pre_1)

Documented client interactions aid in responding to client requirements. (Ops_Pre_6)

Key issues requiring client agreement can be effectively identified from documented client interactions. (Ops_Pre_7)

Documented client interactions aid in problem analysis in case of termination. (Ops_Post_3)

Documented client interactions are an important source of experience with past clients. (KM_Over_6)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing the procedures for capturing interactions with clients, and identify expected results.
2. Define and document the steps to be taken when capturing interactions with clients. Concurrently, indicate the work products to be generated at each step.
3. Define information to be captured for each client interaction. Also, define the methods and media for capturing client interactions.
4. Identify and provide the resources required for capturing interactions with clients, including necessary tools.
5. Assign and train the personnel needed for capturing client interactions.
6. Capture interactions with clients based on the defined procedures.
7. Obtain client sign off, as appropriate, on information that has been captured. Track and close any open issues or decisions made.

Supplementary Information on Activities

Activity 4. Tools used to capture client interactions include templates, specialized software, and extranets.

Activity 6. Captured client interactions include proposals, requirements specifications, clarifications provided by clients, reports related to the status of service design and delivery, client feedback, and requests for service delivery. Information associated with a client's interactions includes originator, respondent, date and time, and nature and status of the interaction.

Activity 7. Client sign off for issues or decisions can be in the form of sign-offs or approvals.

Attributes to Measure

Effectiveness of the procedure

Example Measures

- Number of days delay in updating client interaction records
- Number of instances of failure in service delivery attributable to inaccurate capture of client interactions
- Frequency of access of client interaction records for clarification

Integrity of client interaction records

Example Measures

- Number of errors identified in client interaction records

Provide remediation to prevent reoccurrence of identified problems.

Rationale: 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.

Inputs

Prerequisites

Reviewing the performance of the organization helps in identifying problems that need remediation. (Org_Over_4)

Verification of procedures identifies problems that require remediation. (Org_Over_13)

Results of evaluation of training effectiveness are used to identify training related problems. (Ppl_Over_5)

Monitoring subcontractor or vendor performance helps to identify related problems. (Ops_Over_2)

Tracking service design, deployment, and delivery activities and tracking service levels help identify problems that need remediation. (Ops_Exe_5, Ops_Exe_15, Ops_Exe_16, Ops_Exe_17)

Client feedback at different stages of contract execution and completion helps identify problems. (Ops_Exe_11, Ops_Exe_18, Ops_Post_2, Ops_Post_3)

Monitoring the performance of the technology infrastructure helps identify problems related to technology that require remediation. (Tech_Exe_2)

Activities for the Organization

1. Formulate guidelines across the organization to identify problems that require remediation.
2. Define acceptable time frames for generating and implementing remedial actions.
3. Train personnel to identify problems that will require remedial action.
4. Identify and communicate to personnel the reporting channels, including escalation, for reporting problems that require remedial action.
5. Use systematic techniques to analyze and find solutions to identified problems.
6. Identify personnel who will implement the remedial actions and define their roles and responsibilities.
7. Identify and document problems and generate remedial actions.
8. Implement remedial actions and track them to closure.
9. Evaluate and document the effectiveness of the implemented remedial actions.

Supplementary Information on Activities

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

Activity 5. Systematic techniques for finding solutions to problems include root cause analysis, brainstorming, designing experiments, or testing for significance.

Activity 7. Remedial actions typically include modifying service delivery process; changing plans; adjusting resources, including people and tools; and negotiating changes to commitments or service levels.

Enhancers
Programs are a means of implementing remedial actions that prevent the reoccurrence of identified problems. (Org_Over_3)

Outputs

Dependent Practices
Identified problems and remedial actions taken are used to identify opportunities for improvement. (Org_Over_5)

Identified problems are used to identify risks that are specific to a contract. (Ops_Pre_2)

Associated Practices
None

Attributes to Measure

Effectiveness of the remedial action

Example Measures

- Percentage of identified problems that are resolved
- Number of instances of failure in service delivery attributable to reoccurrence of identified problems
- Percentage reduction in customer complaints due to remedial actions taken
- Percentage of remedial actions completed within defined time frames

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

Rationale: An organization needs to proactively identify potential problems and implement suitable preventive actions in order to improve its performance and enhance value to its clients.

Inputs

Prerequisites

Programs are used to implement preventive actions. (Org_Over_3)

Reviews of organizational performance are used to identify potential problems. (Org_Over_4)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

Identified potential problems are used to identify risks and define plans for their mitigation. (Ops_Pre_2)

The organization develops responses to certain identified potential problems in the disaster recovery plan. (Tech_Over_5)

Activities for the Organization

1. Systematically analyze the data collected from tracking, verifying, monitoring, and measuring activities in order to identify potential problems.
2. Train personnel in tools and techniques used for identifying potential problems and for taking preventive actions.
3. Formulate guidelines to implement preventive actions within defined time frames for identified potential problems.
4. Identify the personnel who will implement preventive actions, and define their roles and responsibilities.
5. Implement preventive actions and track them to closure.
6. Evaluate and document the effectiveness of the preventive actions implemented.
7. Systematically use knowledge gained from problems faced in previous client engagements when planning for new client engagements.

Supplementary Information on Activities

Activity 2. Personnel may undergo training in relevant areas such as statistical methods and systematic causal analysis.

Activity 5. Preventive actions include retraining of personnel and making necessary modifications in organizational procedures, plans for service design and deployment, and communication procedures.

Attributes to Measure

Effectiveness of preventive actions

Example Measures

- Number of preventive actions initiated
- Estimated value of benefits due to preventive actions initiated (derived from impact analysis)
- Percentage of identified preventive actions completed within defined time frames

Ops_Over_6 Level 2

Establish and implement procedures to meet a client's requirements for confidentiality, security, and protection of intellectual property.

Rationale: An organization's ability to maintain the security and confidentiality requirements of a client, and to protect the client's intellectual property, is a key consideration for its selection. This is intended to foster a successful client relationship by increasing the level of trust.

Inputs

Prerequisites

A defined organizational policy provides direction for implementing client requirements for security and confidentiality. (Org_Over_11)

Documented client requirements are used to define specific requirements for security and confidentiality. (Ops_Pre_1)

Security and confidentiality requirements by the client are identified as key issues and negotiated and agreed upon. (Ops_Pre_7)

Enhancers

None

Outputs

Dependent Practices

While capturing client interactions, a client's confidentiality requirements should be adhered to. (Ops_Over_3)

Procedures for designing and deploying services should ensure that the client's requirements for security and confidentiality are met. (Ops_Exe_1)

Procedures for hand over should satisfy the client's security and confidentiality requirements. (Ops_Post_1)

Activities for the Organization

1. Describe the intent of implementing procedures for meeting a client's requirements for confidentiality, security, and protection of intellectual property, and identify expected results.
2. Define and document the steps to be taken in implementing a client's requirements for confidentiality, security, and protection of intellectual property. Concurrently, indicate the work products to be generated in the defined steps.
3. Communicate the organization's security and confidentiality policy to the client.
4. Identify the client's intellectual property.
5. Identify and provide the resources required for managing security and confidentiality.
6. Identify the personnel who will implement the client's requirements for confidentiality, security, and protection of intellectual property, and define their roles and responsibilities.
7. Train and authorize identified personnel.
8. Obtain client validation of the security and confidentiality management systems of the organization, as necessary.
9. Negotiate with the client and agree upon additional requirements for security and confidentiality in the contract.
10. Communicate the client's requirements for security, confidentiality, and protection of intellectual property, to the service design team.
11. Identify specific activities from the additional requirements and incorporate them into the security and confidentiality management system.
12. Identify problems in implementing security and confidentiality requirements and track them to closure.

Procedures for security management should be included with any client requirements, as appropriate. (Tech_Over_2)

Technology licenses and intellectual property should be transferred back based on the client's requirements. (Tech_Post_1)

Service components should be reused while satisfying the client's requirements for confidentiality and protection of intellectual property. (KM_Over_7)

Associated Practices
None

Supplementary Information on Activities

Activity 1. A client's requirements for security and confidentiality include procedures for access to client networks; data backup requirements; physical access restrictions; and disabling of specific media such as floppy drives, zip disk drives, and compact disk drives. An organization can protect intellectual properties through restricting access with passwords, and provide physical security through locked cabinets. For more information, please see: http://www.cert.org/nav/index_green.html

Activity 2. Work products generated include templates for sign-off on intellectual property received, non-disclosure agreements with personnel handling client information, and access lists to client-provided information.

Activity 4. Client-supplied intellectual property may include proprietary software, hardware, designs, methodologies, service-related documents, trademarks, copyrights, drawings, layouts, and other proprietary technology.

Activity 9. Additional requirements may be applicable to 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.

Attributes to Measure

Comprehensiveness of procedure

Example Measures

- Number of additional requirements for confidentiality, security, and protection of intellectual property identified per client
- Number of modifications made to organization's security management system based on additional client requirements
- Number of instances of breach of client requirements of confidentiality, security, and protection of intellectual property
- Rating by client on adequacy of security and confidentiality

Ops_Pre_1 Level 2

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

Rationale: Effectively capturing a client's requirements enables an organization to design, deploy, and deliver a service that comprehensively meets client expectations.

Activities for the Organization

1. Describe the purpose of implementing procedures to capture client requirements and identify the expected results.
2. Define and document the steps to be taken in capturing client requirements. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required for capturing client requirements.
4. Train and authorize the personnel designated to capture client requirements.
5. Specify duration, methods, and media for capturing client requirements.
6. Capture and document client requirements, and also identify client needs that are implied or unstated.
7. Obtain client approval of captured requirements, to verify the accuracy of understanding.
8. Obtain and document client's acceptance of specific decisions related to the requirements, as appropriate.
9. Update client requirements as appropriate, and track the changes made to the requirements.

Inputs

Prerequisites

Designation of suitable personnel to understand client needs aids in capturing client requirements accurately. (Ppl_Pre_1)

Procedures for capturing client interactions aid in capturing and documenting client requirements. (Ops_Over_3)

Enhancers

Knowledge of clients and end-users enables personnel to be effective and proactive in capturing client requirements. (Org_Over_9)

Outputs

Dependent Practices

Captured client requirements are communicated in a systematic manner to the service design and deployment team. (Org_Exe_1)

Specific cultural attributes are identified while capturing client requirements. (Org_Exe_2)

Client requirements provide input for identifying contract specific risks. (Ops_Pre_2)

Roles and responsibilities of a client and the organization are defined based on client requirements. (Ops_Pre_4)

Client requirements form the basis for feasibility studies. (Ops_Pre_5)

Service specifications are developed based on client requirements. (Ops_Exe_2)

Service design is validated against client requirements. (Ops_Exe_12)

Captured client requirements are documented and stored in the knowledge base. (KM_Pre_1)

Associated Practices
None

Supplementary Information on Activities

Activity 2. Work products typically include templates for minutes of meetings and communication records.

Activity 3. Client requirements include service characteristics, performance criteria, application area (market sector), and service levels. These requirements can be quantitative or qualitative in nature. Where applicable, requirements related to the environment where the service will be used can also be captured as a part of requirements specification.

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

Activity 4. The personnel required to capture requirements can be trained in the client's domain area, interviewing techniques, listening skills, and communication.

Activity 5. Methods to capture client requirements include obtaining all documents related to service, including client or end-user manuals, specifications, and samples; conducting interviews of client personnel and end-users; usage of standard questionnaires; and collection of artifacts.

Activity 7. Client approvals can be obtained via e-mail, signed documents, minutes of telephone conferences, or through feedback on a delivered pilot service.

Attributes to Measure

Effectiveness of requirements capturing

Example Measures

- Number of changes to service design attributable to incomplete requirements captured
- Number of clarifications required from the client during service design, deployment, and delivery
- Percentage of requirements defined by the service provider that are not accepted by the client

Resource consumption

Example Measures

- Total person-hours spent capturing client requirements
- Person-hours spent per client on capturing requirements

Identify and assess contract-specific risks.

Rationale: Systematic identification of the risks for a specific contract enable an organization to take appropriate actions during client engagements. These actions can be either to prevent the occurrence, or to minimize the probability and impact, of such risks. This aids the organization in maintaining the service levels required to satisfy client expectations.

Inputs

Prerequisites

A risk management policy provides the overall direction to identify and assess risks specific to the contract. (Org_Over_10)

Enhancers

Identified potential problems are used to identify and assess risks. (Ops_Over_5)

Outputs

Dependent Practices

None

Associated Practices

Identified risks are managed according to plan. (Org_Exe_3)

Identified risks are key issues in a disaster recovery plan. (Tech_Over_5)

Activities for the Organization

1. Identify contract-specific risks based on the organizational policy on risk management.
2. Use experience from previous client engagements as an input for identifying risks specific to the applicable contract and the market sector.
3. Maintain an inventory of applicable risks related to services in the organization that aid in identification of contract specific risks.
4. Identify contract-specific risks. Assess and prioritize identified risks based on quantitative and qualitative criteria.
5. Update identified risks on a periodic or event driven basis using the results of the risk monitoring activity.

Supplementary Information on Activities

Activity 1. Contract-specific risks include variations in delivery schedules or delivery milestones, cost involved, subcontractor performance, technology failure, personnel non-availability and communication failure.

Activity 4. Qualitative criteria used typically include severity of risks, likelihood of occurrence, and impact of risk. For example, the likelihood of occurrence may be remote, unlikely, or highly likely. The impact of risk may be negligible, low, medium, high, or significant.

Quantitative criteria may include expected monetary value, statistical sums, and quantified risk tolerances.

Attributes to Measure

Effectiveness of risk identification activity

Example Measures

- Number of risks identified per contract
- Number of identified risks categorized as critical
- Number of unidentified risks occurring during service design, deployment, and delivery

Currency of risk identification

Example Measures

- Frequency of monitoring for and updating of unidentified risks

Ops_Pre_3 Level 2

Establish and implement procedures to identify and update contract applicable statutory and regulatory requirements.

Rationale: An organization needs to comply with statutes and regulations that impact its service capability in order to avoid client dissatisfaction, especially in international outsourcing relationships. Compliance with statutory and regulatory requirements is also necessary for ethical organizational functioning.

Inputs

Prerequisites

None

Enhancers

Client and end-user related knowledge aids in identifying applicable statutory and regulatory requirements. (Org_Over_9)

Outputs

Dependent Practices

An organization's risk management policy takes into account statutes and regulations. (Org_Over_10)

An organization's security and confidentiality policies take statutes and regulations into account. (Org_Over_11)

Contract specific risks include compliance with statutory and regulatory requirements. (Org_Exe_3)

A work environment should be designed to comply with statutes and regulations. (Ppl_Over_6)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures to keep statutory and regulatory requirements updated, and identify expected results.
2. Define and document the steps to be taken in maintaining statutory and regulatory requirements. Concurrently, indicate the work products to be generated at each step.
3. Identify applicable statutes and regulations for the markets, geographical regions, and specific services provided by the organization.
4. Identify and provide the resources required for maintaining statutory and regulatory requirements in all contracts.
5. Assign personnel who will maintain statutory and regulatory requirements and define their roles and responsibilities.
6. Train and authorize the assigned personnel.
7. Identify any additional statutes and regulations applicable to specific client engagements.
8. Analyze statutes and regulations to identify their impact on the organizational procedures and infrastructure including people and technology.
9. Ensure that organizational procedures comply with statutes and regulations.
10. Define mechanisms to monitor compliance with, and track changes to, statutes and regulations.
11. Keep information on statutes and regulations updated. Incorporate changes in the organization's procedures and infrastructure, as required.

Supplementary Information on Activities

Activity 3. Statutes and regulations can 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.

Activity 7. Client-specific statutes and regulations may be those stated above, but specifically applicable to the client's business environment, such as regulations stipulated by the government of the client's country.

Activity 8. Changes the organization makes in order to comply with regulations include altering company procedures, modifying technological infrastructure, preparing and submitting reports required by statutes, and obtaining required approvals.

Attributes to Measure

Effectiveness of statutory and regulatory compliance procedures

Example Measures

- Number of instances of client dissatisfaction due to non-conformance with applicable statutory and regulatory requirements
- Number of instances of non-conformance noticed internally and rectified
- Number of instances of changes to organization's policies and procedures based on changes to statutes and regulations
- Number of days delay in updating organization's policies and procedures after change in statutes or regulations

Resource consumption

Example Measures

- Person-hours spent in identifying changes in statutes and regulations
- Monetary implications of ensuring conformance to applicable statutory and regulatory requirements, such as additional investments required, penalties incurred, additional taxes or levies

Ops_Pre_4 Level 2

Define the roles and responsibilities of the organization and the client with respect to the proposed engagement.

Rationale: Clearly defining the roles and associated responsibilities of the client and the organization is critical for successful contract execution and service delivery. This also aids during dispute resolution by tracking service performance issues where nonfulfillment of defined roles and responsibilities occur.

Inputs

Prerequisites

Roles and responsibilities of the organization and the client are defined in the contract. (Org_Pre_3)

The designated team negotiates with the client on roles and responsibilities of the client and the organization, in the proposed engagement. (Ppl_Pre_2)

Client requirements are a basis for identifying responsibilities of both the client and the organization. (Ops_Pre_1)

Roles and responsibilities of the client and organization are key issues for negotiation. (Ops_Pre_7)

Enhancers

None

Outputs

Dependent Practices

Defined roles and responsibilities aid in dispute resolution. (Org_Over_7)

Identified roles and responsibilities are used to identify and manage contract specific risks. (Org_Exe_3, Ops_Pre_2)

Roles and responsibilities are considered while reviewing the feasibility of meeting client requirements. (Ops_Pre_5)

Activities for the Organization

1. In the client agreement, define the roles and responsibilities of the organization, the client, and all involved stakeholders, including subcontractors and vendors.
2. Document and communicate to the client the defined responsibilities of the organization and the client.
3. Define and document remedial actions to be taken in case of nonfulfillment of roles and responsibilities.
4. Obtain validation from the client for the identified roles and responsibilities of associated stakeholders.
5. Within the organization and at the client's site, identify contact people who will obtain and provide the information needed to fulfill the defined roles and responsibilities.
6. Within the organization and at the client's site, identify contact people who will escalate instances of nonfulfillment of roles and responsibilities.

Supplementary Information on Activities

Activity 1. An organization identifies roles and responsibilities based on both the activities to be performed in the outsourcing relationship, and on client inputs from clients.

Activity 2. 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.

Associated Practices

None

Responsibilities of the organization may include identifying contact people, 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

Effectiveness of role definitions

Example Measures

- Number of disputes that are related to unclear or undefined roles and responsibilities of personnel in the client or the organization
- Delay in service design, deployment, and delivery attributable to lack of definition of roles or responsibilities of the organization or the service provider

Ops_Pre_5 Level 2

Review client requirements and ensure that the organization can meet them, using present or planned organizational capabilities.

Rationale: Before committing to clients, review the feasibility of meeting client requirements. It is essential for an organization to ensure that client requirements can be met by present or planned organizational capabilities, and still satisfy economic objectives. This drives organizations to proactively understand, plan, and manage client expectations and work towards acquiring required capabilities.

Inputs

Prerequisites

Client requirements for security and confidentiality are to be reviewed for feasibility. (Ops_Over_6)

Captured client requirements are reviewed for the feasibility of meeting them. (Ops_Pre_1)

Statutory and regulatory requirements are to be considered while reviewing feasibility. (Ops_Pre_3)

The roles and responsibilities of the client and the organization are to be reviewed for feasibility. (Ops_Pre_4)

Enhancers

Organizational baselines aid in reviewing the feasibility of meeting requirements. (KM_Over_2)

Outputs

Dependent Practices

The feasibility review provides data for resource planning. (Org_Over_6)

The feasibility review is used to identify contract specific risks. (Ops_Pre_2)

The feasibility review aids in responding to requirements of prospective clients. (Ops_Pre_6)

Activities for the Organization

1. Identify and document the steps to be taken in carrying out feasibility reviews.
2. Ensure that the feasibility reviews cover client requirements including intended results, technology infrastructure, service delivery schedule, effort, and other specific requirements.
3. Consider present and planned organizational capabilities and economic objectives while planning feasibility reviews.
4. Collect the information required to carry out feasibility reviews from the client and from internal sources, and make the information available to relevant personnel.
5. Use organizational data on performance capabilities, including capability baselines, for the feasibility review.
6. Perform a feasibility review before responding to any client requirements.
7. Solicit input from personnel who are involved in executing the commitments and incorporate it in the review.
8. Obtain clarification from the client on incomplete or unclear requirements or information.
9. Document and analyze the results of the review.
10. Incorporate the results of the review in responding to client requirements or requests for proposals.
11. In situations where the review indicates inability to meet client requirements, implement appropriate actions and track them to closure.

The feasibility review is used to define the effort and time frame required to upgrade or adopt appropriate technology. (Tech_Pre_1)

Associated Practices
None

Supplementary Information on Activities

Activity 3. Present or planned organizational capabilities include people with appropriate skills, technology, and capacity. Economic objectives include pricing, revenue, cost, budgets and profitability.

Activity 4. Information from the client 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/documentation of roles and responsibilities.

Activity 6. Reviews are conducted by studying client requirements; conducting pilot activities in service design, deployment, and delivery; and by analyzing pilot results.

Attributes to Measure

Effectiveness of review processes

Example Measures

- Number of problems encountered in service design, deployment, and delivery attributable to ineffective feasibility review
- Number of action items identified based on review
- Percentage of client requirements (technical, commercial or resource related) identified as infeasible during the review
- Number of instances of commitments not met during service design, deployment, and delivery attributable to inadequate review
- Number of clarifications requested from client or client interaction team based on the review

Resource consumption

Example Measures

- Person-hours spent in the feasibility review of client requirements

Ops_Pre_6 Level 2

Establish and implement procedures for responding to the requirements of a prospective client.

Rationale: Providing comprehensive and timely responses to a clients' inquiries, requests, or requirements, is a critical component of an organization's ability to successfully form and expand their relationship with a client.

Inputs

Prerequisites

An organization's security and confidentiality policy provides direction when responding to prospective clients. (Org_Over_11)

Guidelines for pricing services provide direction to the pricing component of responses. (Org_Pre_2)

Client interaction personnel improve the preparation of responses to requests. (Ppl_Pre_1)

Responses need to describe how the organization would meet client requirements for security and confidentiality. (Ops_Over_6)

Effectively captured client requirements provide the basis for preparation of responses. (Ops_Pre_1)

Statutes and regulations and their compliance are an important constituent of responses. (Ops_Pre_3)

Roles and responsibilities of the client and service provider need to be outlined in a response. (Ops_Pre_4)

The feasibility of meeting client requirements should be ensured prior to committing in a response. (Ops_Pre_5)

Activities for the Organization

1. Describe the intent of implementing procedures for responding to prospective client requirements and identify expected results.
2. Define and document the steps to be taken in responding to prospective client requirements. Concurrently, indicate the work products to be generated at each step defined.
3. Identify and document the client requirements that need responses.
4. Identify and provide the resources required for responding to prospective client requirements.
5. Identify the personnel who will respond to prospective client requirements and define their roles and responsibilities. Train and authorize the identified personnel.
6. Prepare a documented response to client inquiries and requirements.
7. Establish mechanisms to monitor the progress of responses to client requirements or requests for proposals.
8. Identify the contact people within different organizational functions that are involved in responses to client requirements.
9. Identify and make available the information required for responding to client requirements.
10. Communicate any additional clarifications to the client as required.

Enhancers

Knowledge of clients and users provide direction for generating responses. (Org_Over_9)

An organization's risk management policy aids in evaluating risk while preparing responses. (Org_Over_10)

Contract-specific risk assessment needs to be done as a part of the preparation of responses. (Ops_Pre_2)

The estimated effort and time frame for upgrading technology should be documented in responses to a client. (Tech_Pre_1)

Organizational capability baselines aid in preparing responses in a comprehensive and timely manner. (KM_Over_2)

Market information on prospective clients aids in the preparation of responses. (KM_Pre_2)

Outputs

Dependent Practices

Contract provisions are drawn from responses to client requirements. (Org_Pre_3)

Key issues requiring client agreement are derived from the issues documented in responses. (Ops_Pre_7)

Client requirements are derived from, or used in, responses. (KM_Pre_1)

Associated Practices

None

Supplementary Information on Activities

Activity 2. 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 6. An organization’s response can 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 7. 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 8. Organizational functions affecting the response include service design, deployment, and delivery, commercial, legal and human resources.

Attributes to Measure

Effectiveness of response

Example Measures

- Percentage of contracts won compared to proposals submitted (proposal hit rate)
- Number of clarifications and additional information requested by client for each response
- Number of days required to respond to specific client requirement
- Client perception rating on quality of response

Resource consumption

Example Measures

- Average person-hours spent per proposal

Ops_Pre_7 Level 2

Prior to negotiations, identify key issues requiring client agreement.

Rationale: Identification of key issues enables an organization to structure the negotiation process and comprehensively address concerns requiring client agreement and clarification. It also reflects a level of preparedness that enhances a client's trust and aids in developing relationships.

Inputs

Prerequisites

Pricing of services is a key issue for negotiation. (Org_Pre_2)

Contracting procedures enable identification of key issues for contract negotiation. (Org_Pre_3)

The personnel involved in client interactions aids in identifying key issues. (Ppl_Pre_1)

Client requirements lay the foundation for identifying key issues. (Ops_Pre_1)

The roles and responsibilities of the client and the organization are key issues for negotiation. (Ops_Pre_4)

A review of the feasibility of the requirements is used to identify key issues. (Ops_Pre_5)

Documented responses to client requirements are a key source of issues for negotiations. (Ops_Pre_6)

Technology licensing is a key issue requiring client agreement. (Tech_Pre_2)

Activities for the Organization

1. Identify and document key issues to negotiate, based on the clients requirements and the organization's response.
2. Prior to negotiations, communicate the key issues to the client.
3. During negotiations with the client, track to closure the progress on key issues.

Supplementary Information on Activities

Activity 1. An organization can define the key issues to be negotiated, such as 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.

Enhancers

Guidelines for negotiations enable a systematic identification of issues for negotiation. (Org_Pre_1)

Outputs

Dependent Practices

The personnel who will negotiate are identified based on the key issues to be negotiated. (Ppl_Pre_2)

Associated Practices

None

Attributes to Measure

Effectiveness of identification of key issues

Example Measures

- Number of key issues identified
- Percentage of key issues resolved as part of negotiations
- Number of issues discussed and resolved as part of negotiations that were not identified as key issues

Ops_Exe_1 Level 3

Establish and implement procedures to design and deploy the service to meet client requirements.

Rationale: A defined procedure enables an organization to manage the service design and deployment activities and initiate action in case of deviation. This procedure also ensures that the designed service meets client requirements and is deployed within stipulated timeframes.

Inputs

Prerequisites

An organization's risk policy is a part of the service design and deployment procedure. (Org_Over_10)

An organization's security and confidentiality policy provides direction for the service design and deployment procedure. (Org_Over_11)

Identified statutory and regulatory requirements provide data for the design and deployment procedure. (Ops_Pre_3)

Procedures for security management provide input to the service design and deployment. (Tech_Over_2)

Enhancers

None

Outputs

Dependent Practices

The procedure for review of the designed service is derived from the design and deployment procedure. (Ops_Exe_10)

Procedures for designing and deploying are used for validating the service design against the client's requirements. (Ops_Exe_12)

Activities for the Organization

1. Describe the purpose of implementing procedures to design and deploy the service, and identify expected results.
2. Define and document the steps to be taken to design and deploy the service. Concurrently, indicate the work products to be generated at each step. Identify and make available the information required to design and deploy the service.
3. Identify and provide the resources required to design and deploy the service.
4. Identify the personnel who will design and deploy the service, and define their roles and responsibilities.
5. Train and authorize the identified personnel.
6. Document the expected results of the design and deployment activity.
7. Define communication channels with the client, subcontractors, vendors, and other organizational functions.
8. Identify the criteria for review or verification of interim and final work products of the design.
9. Define steps to handle requests for change.

Supplementary Information on Activities

Activity 2. Inputs for the design and deployment activity are consolidated in the form of a service specification.

Procedures for designing and deploying are used when integrating with the technology infrastructure of the client. (Tech_Exe_2)

Associated Practices

Having established procedures for design and deployment enables an organization to identify the personnel and teams needed to design and deploy the service. (Ppl_Exe_1)

Defined procedures for service design and deployment enable the definition of service specifications. (Ops_Exe_2)

Procedures for service design and deployment guide the development of the service design and deployment plan. (Ops_Exe_3)

Defined procedures for service design and deployment, improve the ability to design the service. (Ops_Exe_5)

Activity 6. Results of the service design activity include a definition of how the service will be deployed and monitored (a process and quality specification), a provider's response to anticipated failures in delivery of service, components of the service, and a technology-monitoring plan. It also includes installing the technology infrastructure and training personnel required for deploying the service.

Activity 7. A communication channel includes contact people, and methods of communication, such as, scheduled meetings, e-mails, net meetings, and teleconferences.

Attributes to Measure

Effectiveness of procedure

Example Measures

- Percentage of design and deployment activities that are carried out according to the plan
- Number of client complaints about the designed service
- Instances of feedback from service deployment and delivery teams requiring modifications in the designed service
- Instances of feedback from subcontractors and vendors requiring modifications in the designed service

Resource consumption

Example Measures

- Person-hours spent in design and deployment activities
- Average time taken to design and deploy services

Develop service specifications.

Rationale: Accurate and comprehensive service specifications enable an organization to meet client requirements effectively, since services are designed, deployed, and delivered on the basis of the service specification.

Activities for the Organization

1. Identify the steps to be taken for developing the service specifications.

2. From the designated design and deployment team, identify personnel for developing service specifications, and define their roles and responsibilities. Train the identified personnel.

3. Derive the service specification from the documented client requirements. Modify client -provided service specifications to suit the organization's service design and deployment procedures. Ensure that the service specification addresses applicable statutes and regulations, security and confidentiality requirements, and cultural adjustments.

4. Review service specifications for clarity, correctness, and adequacy. Involve appropriate personnel from the designated team in this review.

5. Identify the source or origin of the requirements in the service specification.

6. Obtain client feedback and sign off for the service specification, according to contractual requirements.

7. Document and update the service specification.

Supplementary Information on Activities

Activity 3. The service specification contains a complete and precise statement of the service to be provided, including a clear description of the service characteristics and corresponding service levels. A service specification typically includes scope of work, 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.

Inputs

Prerequisites

Clear and precise communication of client requirements is essential for developing accurate service specification. (Org_Exe_1)

Personnel are selected from the design and deployment team to develop the service specification. (Ppl_Exe_1)

Documented client interactions are a source of information for developing service specifications and are used to maintain traceability to client specified requirements. (Ops_Over_3)

The client's requirements for security and confidentiality provide data for the service specification. (Ops_Over_6)

Client requirements used for developing service specifications. (Ops_Pre_1)

Compliance with statutes and regulations is addressed in a service specification, as appropriate. (Ops_Over_3)

Documented responses to client requirements lay the foundation for developing service specifications. (Ops_Over_6)

Enhancers

Knowledge of clients and end-users help in developing comprehensive service specifications. (Org_Over_9)

Procedures for service design and deployment guide the development of service specifications. (Ops_Exe_1)

Cultural attributes are important considerations when developing a service specification. (Org_Exe_2)

Outputs

Dependent Practices

Project plans are drawn up based on the service specification. (Ops_Exe_3)

Services are designed based on the service specification. (Ops_Exe_5)

Designs are reviewed to see whether they meet the requirements as stated in the service specification. (Ops_Exe_10, Ops_Exe_12)

Associated Practices

None

Attributes to Measure

Integrity of service specification

Example Measures

- Number of changes or errors observed during service design, deployment, and delivery, attributable to errors in service specification
- Number of changes or errors observed during service design, deployment, and delivery, attributable to incomplete service specification
- Number of errors or nonconformities observed during review of service specification requirement
- Number of errors or nonconformities observed during review, by cause (such as errors in service characteristics, improperly defined service levels)
- Number of instances of rework on service specifications due to nonacceptance by the client
- Average lag in updating service specification after revising requirements

Resource consumption

Example Measures

- Person-hours spent in preparation of service specification
- Time taken to prepare service specification

Ops_Exe_3 Level 2

Define a plan to design and deploy the service.

Rationale: Planning is critical for designing and deploying services that meet commitments made to clients within allocated resources. Plans also form a basis for monitoring and reviewing service design and deployment activities.

Inputs

Prerequisites

Personnel designated to design and deploy the service are involved in defining the plan. (Ppl_Exe_1)

The results of the feasibility review are used for developing the plan. (Ops_Pre_5)

Service specifications are used when developing a plan for designing and deploying the service. (Ops_Exe_2)

Knowledge of resources used in previous client engagements aid in estimating resource requirements. (KM_Exe_3)

Enhancers

Knowledge of competencies and skills used in previous contracts aid in estimating skill requirements. (KM_Exe_2)

Organizational baselines are used to develop service design and deployment plans. (KM_Over_2)

Outputs

Dependent Practices

Contract specific risks are identified and plans for managing them are defined in the service design and deployment plan. (Org_Exe_3)

Activities for the Organization

1. Identify and make available information needed to define the activities and estimate the resources for designing and deploying the service.
2. Identify personnel who will develop the plan, and define their responsibilities.
3. Train and authorize the identified personnel.
4. Develop and document a plan to design and deploy the service. Incorporate recommendations from personnel who will implement the plan. Peer review the plan for correctness, clarity, and adequacy.
5. Obtain approval of the plan from designated personnel. Obtain client approval on key issues wherever required.
6. Communicate the plan to relevant personnel.
7. Update the plan based on a status review of the design and deployment activities

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Supplementary Information on Activities

Activity 1. The information required for defining activities to be carried out and estimating resources that are required include milestones, service specifications, service levels to be achieved, and security and confidentiality requirements.

Other required information includes details of similar projects executed by the organization, availability of personnel and skills, lead times required for procurement, interdependencies within activities and resources, technology resources, risks associated with resources, capacity in terms of space, and infrastructure facilities.

Service design and deployment is done based on the defined plan. (Ops_Exe_5)

The service design and deployment plan provides guidance for the monitoring and tracking activities. (Ops_Exe_6)

Associated Practices
None

Activity 3. The service design plan includes objectives and scope of the project; identification of deliverables from the project; estimates for the effort and time frame for each activity; resources required, including monetary resources, personnel and technology infrastructure; training required; functional and other personnel who have contact with the client; change-handling mechanisms; activity dependencies; transition plans; monitoring methods and duration; management of risks; milestones; and reviews planned.

The service deployment plan includes scheduling of personnel, technology infrastructure, client-supplied resources, testing and installation, integration with client technology, trial runs, and steps to obtain client feedback and approval.

Activity 6. Project plans are updated due to changes in client requirements, contract amendments, service modifications, and changes in resource availability.

Attributes to Measure

Quality of planning activity

Example Measures

- Percentage of milestones met
- Number of days to prepare project plan after definition of service specification
- Number of instances of delays in achieving project planning milestones that are attributable to incorrect or delayed information

Resources consumed for planning

Example Measures

- Number of person-hours spent on planning activity
- Percentage of person-hours spent on planning compared to person-hours spent on service design and deployment

Quality of plan

Example Measures

- Number of modifications resulting from peer review of the plan
- Rating of plan by peer review team for usability, comprehensiveness, and feasibility

Plan effectiveness

Example Measures

- Percentage resource requests not planned for compared to total resource requests
- Percentage of service design and deployment plans completed on time
- Percentage of service design and deployment plans completed within the budget

Ops_Exe_4 Level 2

Define and communicate service expectations to subcontractors and vendors.

Rationale: Subcontractors and vendors are critical for achieving commitments made to the client. Communicating clear expectations that are derived from commitments made to the client enables subcontractors and vendors, and in turn the organization, to meet service commitments.

Inputs

Prerequisites

Expectations are communicated to selected subcontractors and vendors. (Ops_Over_1)

Service specifications are used to identify expectations. (Ops_Exe_2)

Plan for design and deployment of service specific expectations of subcontractors and vendors. (Ops_Exe_3)

Procedures for acquisition of technology aid in defining expectations from vendors. (Tech_Over_3)

Enhancers

None

Outputs

Dependent Practices

Subcontractors and vendors are monitored based on their performance with respect to expectations. (Ops_Over_2)

Associated Practices

None

Activities for the Organization

1. Identify service expectations from subcontractors and vendors based on commitments made to clients. Ensure that service levels for subcontractors and vendors are linked to commitments made to the client.
2. Identify the personnel who will communicate service expectations to subcontractors and vendors.
3. Communicate service expectations to subcontractors and vendors.
4. Reach an agreement on the service to be provided.
5. Provide access to resources required by subcontractors and vendors to obtain clarification.
6. Define and document steps to receive, analyze, and address clarifications required by subcontractors and vendors.

Supplementary Information on Activities

Activity 1. Service expectations include specification of the service to be delivered, roles and responsibilities, performance measurement criteria, specific skill requirements, specific tools and technologies, standards and procedures to be followed, acceptance criteria, security policy, security and confidentiality requirements, methods for obtaining clarifications, status reporting (including periodicity) and delivery schedule.

Activity 2. Personnel who are involved in selection and management communicate the service expectations to the subcontractors and vendors.

Activity 3. Communication of expectations is done through scheduled meetings, and subcontractor and vendor agreements.

Attributes to Measure

<u>Effectiveness of communication of expectations</u>

Example Measures

- Number of client complaints attributable to performance of subcontractors and vendors
- Percentage of defaults in meeting service levels attributable to subcontractors and vendors
- Number of clarifications raised by subcontractors and vendors
- Number of action items identified per subcontractor and vendor during monitoring
- Variation in actual time and cost taken for service design and deployment compared to the plan, attributable to subcontractors or vendor not meeting commitments

Ops_Exe_5 Level 2

Design and deploy the service based on the service specification.

Rationale: Service specifications consolidate all requirements that are to be met by the service to be delivered, including those explicitly stated by the client and those perceived by the organization as necessary for the project. Therefore, it is essential to design and deploy the service based on the service specification.

Inputs

Prerequisites

Designated personnel develop the service design. (Ppl_Exe_1)

The designed service is based on the service specification. (Ops_Exe_2)

The project plan provides information regarding time frames and resources for the service design. (Ops_Exe_3)

Procedures to integrate the technology infrastructure are used for the process specification. (Tech_Exe_1)

Enhancers

The service design should utilize knowledge gained from previous client engagements. (KM_Over_6)

The service design should utilize existing reusable service components. (KM_Over_7)

Knowledge of past innovative approaches aid in improving the service design. (KM_Exe_1)

Outputs

Dependent Practices

The skills that are required for a specific client are identified during the design of the service. (Ppl_Exe_2)

Activities for the Organization

1. Train and authorize designated personnel to design and deploy the service.
2. Use the service design and deployment plan to identify the activities to be performed and the resources to be provided.
3. Design and deploy the service to meet the requirements, as defined in the service specification.
4. The documented service design includes the process specification, quality specification, plan for monitoring technology infrastructure, planned response to clients and end-users for anticipated failures in service delivery, and a disaster recovery plan.
5. Identify, acquire, and install the required technology infrastructure.
6. Train and qualify personnel for delivering the service based on the process specification.
7. Identify requirements for the work environment as part of the service design.
8. Identify the components of designed service that need to be tracked and controlled.

Supplementary Information on Activities

Activity 8. Components of service include a process specification, a quality control specification, a technology monitoring plan, a service recovery plan, service requests received, and client supplied resources. These components change through various stages of the service delivery process and need to be tracked and controlled.

The service design is reviewed according to an established procedure. (Ops_Exe_10)

Get feedback from the client on the service design. (Ops_Exe_11)

The service design is validated against client requirements. (Ops_Exe_12)

The service components are defined in the service design. (Ops_Exe_19)

Process specifications which define the process of service delivery are a result of the service design. (Ops_Exe_7)

A quality specification for monitoring service quality is a result of service design. (Ops_Exe_8)

The response to anticipated failures in service delivery is defined in the service design. (Ops_Exe_9)

The technology to be acquired is identified as a part of the service design. (Tech_Over_3)

Disaster recovery procedures are updated based on inputs from the service design. (Tech_Over_5)

Associated Practices
None

Attributes to Measure

Effectiveness of service design and deployment

Example Measures

- Number of client complaints about designed service
- Number of instances of feedback from service delivery teams that require modifications in the designed service
- Number of instances of feedback from subcontractors and vendors that require modifications to the designed service
- Percentage of design and deployment activities that are carried out according to the plan
- Percentage of deviations of design and deployment activities from plan by cause (due to delays in installation of technology or nonavailability of qualified and trained personnel)
- Average delay in start of service delivery attributable to delays in service design and deployment
- Variation in actual time and cost taken for service design and deployment, compared to the plan

Resource consumption

Example Measures

- Person-hours spent in design and deployment activities
- Average time taken to design and deploy services

Ops_Exe_6 Level 2

Track service design and deployment activities against the plan at designated intervals.

Rationale: Tracking against the plan provides adequate visibility to the organization on the progress of service design and deployment. Timely interventions in case of deviations ensure that the service is designed and deployed as agreed upon with the client.

Inputs

Prerequisites

The service design and deployment activities are tracked against the plan for service design and deployment. (Ops_Exe_3)

The designed and deployed service is tracked for compliance with the plan. (Ops_Exe_5)

Enhancers

None

Outputs

Dependent Practices

Tracking service design and deployment aid in organizational review. (Org_Over_4)

The performance of personnel involved in service design and deployment activities is reviewed. (Ppl_Over_13)

Associated Practices

None

Activities for the Organization

1. Tracking service design and deployment activities is based on the plan for service design and deployment.
2. Identify the personnel who will track service design and deployment activities, and define their responsibilities.
3. Define the attributes to be tracked during service design and deployment activities.
4. Define and establish channels for communicating the status of the service design and deployment activities, including criteria for escalation.
5. Track the service design and deployment activities against the plan.
6. Authorize personnel to identify actions to be taken when actual performance does not meet desired outcomes.
7. Identify and track to closure actions to be taken when actual performance does not meet required outcomes.
8. Communicate the progress of the service design and deployment activities according to the plan.

Supplementary Information on Activities

Activity 1. Service design and deployment activities requiring tracking include preparation of the following: process specification, quality specification, response to anticipated failures of service, disaster recovery plan, and technology infrastructure monitoring plan; as well as, design review, client feedback on design, service deployment, and validation against requirements. Service deployment includes training of personnel, and acquiring and installing technology infrastructure.

Activity 3. Attributes of service design and deployment activities tracked include resources used, milestones achieved, and quality of work products and service components.

Activity 5. Tracking mechanisms include periodic status reporting and scheduled meetings.

Attributes to Measure

Effectiveness of tracking

Example Measures

- Percentage of tracking activities carried out according to the plan
- Percentage of design and deployment activities carried out according to the plan
- Number of instances of client feedback on nonadherence to commitments related to service design and deployment
- Average delay in start of service delivery attributable to deviations observed from the plan based on tracking the service design and deployment activities
- Variation in actual time and cost taken for service design and deployment, compared to plan

Resource consumption

Example Measures

- Person-hours spent in tracking design and deployment activities

Ops_Exe_7 Level 2

Define process specifications for the delivery of service.

Rationale: A defined process for the delivery of service enables an organization to maintain and control service delivery at agreed upon service levels. Consistent adherence to service commitments is essential for ensuring client and end-user satisfaction.

Inputs

<u>Prerequisites</u>

The process specification is an output of the service design. (Ops_Exe_5)

<u>Enhancers</u>

None

Outputs

<u>Dependent Practices</u>

Service delivery activities at a subcontractor's site are verified according to a process specification. (Ops_Over_2)

Process specifications are used as a basis for the delivery of service. (Ops_Exe_14)

Service delivery activities are tracked against the process specification. (Ops_Exe_15)

<u>Associated Practices</u>

None

Activities for the Organization

1. Ensure that the process specification includes:

   a. Methods for communicating with client and end-users.

   b. Defined steps for receipt and delivery of service requested.

   c. Resources required to deliver service.

   d. A clear description of the service delivery characteristics that directly affect service performance.

   e. A standard of acceptability for each service delivery characteristic.

   f. Methods for coordinating with the subcontractors and vendors who are required for the delivery of service.

Supplementary Information on Activities

Activity 1. a. Methods of communication with clients and end-users include pre defined contact people, 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

b. 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.

c. Resources required for service delivery include personnel, skills, tools and techniques.

d. 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.

Attributes to Measure

<u>Integrity of process specification</u>

Example Measures

- Number of changes and errors observed during service delivery attributable to errors in process specification
- Number of errors and noncompliances observed during internal review of process specification
- Number of errors and noncompliances observed during internal review, by cause (due to errors in service characteristics, clarity, comprehensiveness, and compliance to client specified standards)
- Number of instances of rework on process specifications based on feedback received from the client
- Average lag in changing process specification after revision of requirements

Ops_Exe_8 Level 2

Define quality specifications to monitor the quality of the service delivered.

Rationale: A defined process for monitoring the quality of the service enables an organization to maintain and control the quality of service delivered at agreed upon service levels. Consistently achieving service level commitment is critical for client and end-user satisfaction.

Inputs

Prerequisites

A quality specification is one of the outcomes of the service design. (Ops_Exe_5)

Enhancers

None

Outputs

Dependent Practices

Subcontractor performance is monitored based on the defined quality specification. (Ops_Over_2)

The organization monitors the quality of service delivery based on quality specifications. (Ops_Exe_16)

Associated Practices

None

Activities for the Organization

1. Ensure that the quality specification includes:

a. Service characteristics that impact the quality of the service delivered.

b. Measures of service characteristics required for controlling the quality of service delivered.

c. Schedules, methods, personnel, and tools for monitoring the identified characteristics.

d. Methods for capturing the results of monitoring and identification of personnel responsible for analysis of results.

e. Actions to be taken based on the analysis of the results of monitoring the service quality.

Supplementary Information on Activities

Activity 1. a. Characteristics that affect quality of service include achievement of service levels, response time, and attitude of personnel interacting with client and end-user.

b. 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.

Attributes to Measure

Integrity of quality specification

Example Measures

- Number of errors and noncompliance observed during internal review of quality specification
- Number of errors and noncompliance observed during internal review, by cause (due to errors in service levels, clarity, comprehensiveness, and compliance to client specified standards)
- Number of instances of rework on quality specifications based on feedback received from the clients and end-users
- Average lag in changing quality specification after revision of requirements

Develop the organization's response to anticipated failures in the delivery of service.

Rationale: An organization's preparedness to respond to, and recover from, disruptions in service delivery, is an indication of its capability to meet commitments made to its clients. Effectively responding to failures in service delivery improves client and end-user satisfaction.

Inputs

Prerequisites

Training for personnel and contract-specific training should cover methods for handling disruptions or failures in delivering the service. (Ppl_Over_4, Ppl_Exe_2)

The risks identified for a particular contract are used to identify potential causes of disruption in services. (Ops_Pre_2)

Process and quality specifications identify points of failure that impact the achievement of committed service levels. (Ops_Exe_7, Ops_Exe_8)

The experience from past contracts are used to identify potential points of failure in the delivery of the service. (KM_Over_6)

Enhancers

None

Outputs

Dependent Practices

The effectiveness of planned responses to service failures is gauged by perceptions of the client and the end-user. (Org_Over_8)

Remedial or preventive actions are initiated based on an analysis of service failures. (Ops_Over_4, Ops_Over_5)

Activities for the Organization

1. Identify potential points of failure (disruptions) that can affect the ability to deliver service at agreed upon service levels.
2. Define and document the steps that need to be taken in response to potential failures, with an objective of minimizing their impact.
3. Obtain client inputs, as appropriate, for developing responses to potential failures in the service delivery.
4. Identify and provide resources required for implementing the steps to respond to failures.
5. Train personnel to identify instances of service failures and to respond in case of occurrence.
6. Define coordination steps and plans for communicating with affected stakeholders.
7. Implement planned responses to the identified instances of service failures.
8. Capture instances of service failures and the organization's response. Track the organization's response to service failures.
9. Identify actions to be taken based on the results of monitoring the effectiveness of the planned responses. Track the identified actions to closure.
10. Define and document the steps that ensure timely and effective resolution of complaints from clients and end-users due to failures in service delivery.
11. Identify remedial actions to be taken based on the analysis of client and end-user complaints. Track the identified remedial action to closure.

Associated Practices

None

Supplementary Information on Activities

Activity 1. Examples of failure points that can impact delivery of service include personnel availability, personnel attitude in handling clients, lack of information to respond to client queries, restrictions imposed by technology infrastructure, and factors outside the control of the service provider, such as power failures.

Activity 2. Response steps include training provided to handle dissatisfied clients and end-users, definite timelines to respond back to clients regarding unresolved issues, defining escalation paths and methodology, and making available alternate services for the duration of the failure.

Attributes to Measure

Comprehensiveness of service recovery procedures

Example Measures

- Number of potential failures identified in delivery of service
- Number of occurrences of identified failures observed in service delivery
- Rating by client or end-user on quality of service delivered
- Number of client or end-user complaints attributable to lack of service recovery methods
- Frequency of updating of service recovery plan

Awareness of personnel

Example Measures

- Number of hours of training on identification of service failures, and steps involved in service recovery per personnel at appropriate levels

Establish and implement procedures to review the designed service.

Rationale: Reviewing design specification enables an organization to identify problems and take corrective actions before the service is deployed.

Inputs

Prerequisites

The plan for service design and deployment is used in the review of the designed service. (Ops_Exe_3)

The developed service design, based on the service specification, is used in the review of the designed service. (Ops_Exe_5)

Enhancers

None

Outputs

Dependent Practices

Review of the service design is used in service design validation. (Ops_Exe_12)

Associated Practices

Modifications to services can be done based on the results of the review of the designed service. (Ops_Exe_20)

Activities for the Organization

1. Identify reviews as part of the plan for design and deployment of service.
2. Describe the purpose of implementing procedures for reviews of the designed service, and identify expected results.
3. Define and document the steps to be taken in the reviews of the designed service. Concurrently, indicate the work products to be generated at each step. Furnish guidelines on methods to be used for review.
4. Identify and provide the resources required for the review of the designed service.
5. Identify the personnel who will participate in the review of the designed service, and define their roles and responsibilities. Train and authorize the identified personnel.
6. Provide guidelines on personnel to be involved in the review.
7. Distribute information on the service design, for use during the review.
8. Review the service design prior to the deployment of service.
9. Document the results of the review.
10. Initiate appropriate actions based on the results of the review.
11. Document the actions initiated based on the results of the review, and track them to closure.

Supplementary Information on Activities

Activity 1. Reviews are scheduled on an event-driven basis or elapsed-time basis.

Activity 3. Methods to do reviews include peer review of documentation, walk-throughs, simulations, demonstrations, scenario generators, and testing interfaces with other systems.

Activity 6. Personnel involved in the review include those personnel who are involved in service design, personnel in functions that are affected by the service design activities, and different levels of management within the organization depending on the characteristics of the contract.

Activity 7. Examples of information related to service design include methods for review, applicable standards, service specifications, and objectives of the designed service.

Attributes to Measure

<u>Effectiveness of review processes</u>

Example Measures

- Number of errors and nonconformance observed in review of the designed service
- Number of action items identified based on review
- Percentage of design reviews conducted compared to those planned during the service design
- Number of review observations pending beyond the specified dates for closure

<u>Resource consumption</u>

Example Measures

- Person-hours spent in review of designed service

Ops_Exe_11 Level 2

Establish and implement procedures to get feedback from the client on the designed service, and to incorporate necessary changes.

Rationale: Client feedback enables an organization to identify problems in the designed service and take corrective actions before the service is deployed. This ensures optimum utilization of organizational resources and prevents occurrence of problems in service performance.

Inputs

Prerequisites

Established procedures to capture client interactions assume documented client feedback. (Ops_Over_3)

Client feedback is sought on the designed service. (Ops_Exe_5)

Enhancers

Procedures for remediation aid in utilizing client feedback to define suitable remedial actions. (Ops_Over_4)

Issues arising from a design review are presented to the clients for feedback. (Ops_Exe_10)

Outputs

Dependent Practices

Client feedback aids in validating the service design against the documented client requirements. (Ops_Exe_12)

Process and quality control specifications are modified based on the feedback received from the client. (Ops_Exe_7, Ops_Exe_8)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures to get client feedback on the designed service, and identify expected results.
2. Define and document that steps to be taken to get client feedback and carry out changes, if necessary. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide resources required to get client feedback and for carrying out changes, if necessary.
4. Identify the personnel who will get client feedback and implement necessary changes, and define their roles and responsibilities. Train and authorize the identified personnel.
5. Identify client contact people and provide required tools to collect feedback from clients.
6. Provide access to the required service design information, in order to get client feedback. The information contents are decided based on input from the service design team and the client.
7. Collect the required information and provide access to the client for feedback.
8. Coordinate with the client to get feedback.
9. Identify actions required to be taken based on analysis of client feedback.
10. Document the actions identified and track them to closure.

Supplementary Information on Activities

Activity 2. Work products include service design information format, feedback formats, templates for minutes of meeting, forms for updating the version library when changes are done, and sign-off templates.

Activity 4. Personnel responsible for obtaining client feedback include project managers and client interaction personnel.

Activity 5. Client contact people include personnel responsible for coordination, reporting and escalation. Tools include e-mails, extranets, and periodic meetings.

Activity 8. Feedback from clients can 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 9. Actions arising from client feedback include changes required to service specifications, planned infrastructure, process and quality specifications, and retraining of personnel.

Attributes to Measure

Effectiveness of procedure

Example Measures

- Number of suggestions received and changes requested by client on the designed service
- Percentage of feedback activities happening as planned

Comprehensiveness of feedback

Example Measures

- Number of clarifications asked by the client on the information provided for feedback
- Number of client and end-user complaints on service, during service delivery

Validate the service design against client requirements.

Rationale: Validation of the designed service against client requirements enables an organization to identify problems that may occur during service deployment and delivery, and take appropriate steps to prevent their occurrence. Validation enables an organization to satisfy client requirements and meet commitments to service levels.

Inputs

Prerequisites

Validation activities are included as a part of the service design and deployment plan. (Ops_Exe_3)

The captured client requirement are used to validate the designed service. (Ops_Pre_1)

Client feedback on the designed service is part of the validation activity. (Ops_Exe_11)

Enhancers

None

Outputs

Dependent Practices

Validation enables the remediation of observed problems and nonconformities. (Ops_Over_4, Ops_Over_5)

Validation of service design against client requirement is a precursor to the delivery of the service according to the defined process. (Ops_Exe_14)

Associated Practices

None

Activities for the Organization

1. Identify what is to be validated and plan for validating the designed service as a part the design and deployment activities.
2. Define guidelines for validation that include identifying the personnel involved and the methods of validation.
3. Identify and provide required information on the service design for use during validation.
4. Validate the service design prior to commencement of service delivery activities.
5. Document the results of the validation activity.
6. Identify actions to be taken based on the analysis of the validation results. Track the identified actions to closure.

Supplementary Information on Activities

Activity 1. The validation activity is conducted using various methods including pilots, trial runs, prototyping, and simulation. These activities are scheduled on an event-driven basis.

Activity 2. Personnel involved in validation include the client, subcontractor, if involved, organizational personnel, and end-users, wherever feasible.

Activity 3. Information related to service design typically includes method for review, applicable standards, service specifications, objectives of the designed service, and captured and agreed upon client requirements.

Attributes to Measure

Effectiveness of validation processes

Example Measures

- Number of errors and nonconformities observed in the validation of designed service
- Number of action items identified based on the validation
- Percentage of design validation activities conducted compared to those planned
- Number of action items pending beyond the specified dates for closure

Resource consumption

Example Measures

- Person-hours spent in validation of designed service
- Time spent in validation of designed service

Establish and implement procedures to verify and account for resources transferred from the client to the organization.

Rationale: An organization needs to keep track of client-supplied resources to adhere to the client's requirements for security, confidentiality, and protection of intellectual property. Tracking of resources provided by the client facilitates smooth hand-over of services at closure of the contract. This also enables an organization to develop relationships and manage disputes.

Inputs

Prerequisites

Resources to be transferred to the organization are identified from the contract. (Org_Pre_3)

Clearly communicated client requirements enable the identification of resources to be transferred from the client to the organization. (Org_Exe_1)

Clearly documented client interactions enable the identification and tracking of client resources. (Ops_Over_3)

The client's requirements for security, confidentiality, and intellectual property, are necessary when handling resources provided by the client. (Ops_Over_6)

Service specifications define resources required from the client. (Org_Exe_2)

Tracking changes in client-supplied technology is conducted as a part of tracking the overall technology changes. (Tech_Over_1)

Enhancers

Client resources, especially people, need to be managed based on the organization's knowledge of the culture. (Org_Exe_2)

Activities for the Organization

1. Describe the purpose of implementing procedures to verify and account for resources received from the client, and identify expected results.
2. Define and document the steps to be taken to verify and account for resources received from the client. Concurrently, indicate the work products to be generated at each step. Client resources are identified as either based on the contract, or as received during the service design activity.
3. Identify and provide the resources required to verify and account for the resources received from the client.
4. Identify the personnel who will verify and account for the resources received from the client, and define their roles and responsibilities. Train and authorize the identified personnel.
5. Identify communication channels, including contact people at the client and at the service provider.
6. Define the criteria for accepting of resources received from the client.
7. Verify the resources before accepting according to the defined criteria.
8. Maintain a record of all resources received from the client, and keep it up to date.

Supplementary Information on Activities

Activity 2. Work products generated include templates for listing resources to be received from the client, required sign-offs, acceptance records, and resource log book. Client resources transferred include policies, procedures, personnel, technology and service-related documentation.

Outputs

Dependent Practices

Tracking resources provided by the client is conducted using the procedure for tracking related service components. (Ops_Exe_19)

Client-supplied resources are handed over as specified in the contract. (Ops_Post_1)

Technology licenses and intellectual property supplied by the client are handed over during reverse transition. (Tech_Post_1)

Associated Practices

None

Activity 5. Contact people include personnel responsible for coordination, reporting, and escalation.

Activity 6. 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 8. 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

Example Measures

- Number of instances of client complaints on problems related to handling of supplied resources
- Number of instances of loss in traceability of the client-supplied resources
- Percentage of client-supplied resources not meeting defined standards of acceptance

Ops_Exe_14 Level 2

Plan and deliver the service according to the defined process.

Rationale: Planning ensures that service delivery activities are allocated to suitable personnel, and required resources are deployed in time to meet service commitments. Delivering the service according to the defined process ensures consistency in delivery of service and achievement of committed service levels.

Inputs

<u>Prerequisites</u>

Allocating personnel to different activities in the delivery of service is based on skills. (Ppl_Over_3)

Contract specific risks need to be monitored during the service delivery. (Org_Exe_3)

The client's requirement for confidentiality and security need to be adhered to during the delivery of service. (Ops_Over_6)

The process specification provides the basis for planning and delivering the service. (Ops_Exe_7)

<u>Enhancers</u>

Adequate resources are required to deploy the service effectively. (Org_Over_6)

In order to ensure client and end-user satisfaction, specific cultural attributes need to be satisfied while delivering the service. (Org_Exe_2)

Outputs

<u>Dependent Practices</u>

Service delivery activities are tracked according to defined plan. (Ops_Exe_15)

Activities for the Organization

1. Plan for delivery of the deployed service, and allocate resources based on anticipated service delivery requirements.
2. Identify the personnel who will deliver the service, and provide adequate training.
3. Assign activities and provide resources to personnel based on the process specification.
4. Define personnel and team targets based on committed service levels.
5. Document and track the service delivery activities.
6. Deliver the service according to the process specification.
7. Identify instances of deviations from the process specification during service delivery activities, and track them to closure.

Supplementary Information on Activities

Activity 1. The plan for delivery of service includes scheduling personnel, providing required infrastructure, methods of receiving and handling service requests, providing for back-up resources, and monitoring the quality of in order to meet anticipated and current service requests. Planning is based on typical service delivery durations, and fluctuations in service request volume.

Activity 4. Targets are associated with the volume of service delivered, the quality of service delivered, and client and end-user satisfaction.

Service levels are tracked during the delivery of service. (Ops_Exe_18)

Associated Practices

None

Attributes to Measure

Adherence to process specification

Example Measures

- Number of instances of deviation observed from the steps defined in process specification, during service delivery
- Mean time taken to commence response to service requests
- Variation in time taken to commence response
- Mean time taken to fulfill a service request
- Variation in time taken to fulfill a service request

Resource utilization for delivery of service

Example Measures

- Average person-hours spent per service request

Ops_Exe_15 Level 2

Track the service delivery activities against the plan, and take corrective action as required.

Rationale: Tracking is required to provide adequate visibility to an organization on the progress of the service delivery activities. It enables the achievement of predefined objectives within schedule and according to budget since an organization can take corrective action in case of deviations. This aids in meeting commitments made to the client.

Inputs

Prerequisites

Corrective action is used to remediate problems identified when tracking service delivery activities. (Ops_Over_4)

A process specification defines the service delivery activities to be tracked. (Ops_Exe_7)

Enhancers

None

Outputs

Dependent Practices

Tracking the service delivery is part of the overall tracking of service level commitments made to the client. (Ops_Exe_17)

Any modification to the service is done based on the results of the tracking activity. (Ops_Exe_20)

Associated Practices

None

Activities for the Organization

1. Track the delivery of service based on the plan for service delivery.
2. Identify the personnel who will track service delivery activities, and define their responsibilities.
3. Define the service delivery activities and their attributes to be tracked.
4. Provide information required for tracking the delivery of service, including commitments made to the client.
5. Identify and provide methods and tools required to track service delivery.
6. Define the channels for communicating the status of service delivery, including criteria for escalation.
7. Track the service delivery activities using the service delivery plan.
8. Identify and authorize personnel to take action when actual performance does not meet the plan.
9. Identify actions to be taken and track them to closure
10. Communicate the status of the service delivery activities according to the plan.

Supplementary Information on Activities

Activity 3. The service delivery attributes to be tracked include time, cost, and effort for service delivery.

Activity 4. Information required for tracking includes contract milestones, technology used, service level tracking logs, and penalties or bonuses associated with achievement of service delivery targets.

Activity 5. Methods and tools used for service delivery tracking include customized software, spreadsheets, standard templates for data capture, techniques for analyzing data, and in-process monitoring.

Activity 6. Channels for communication include periodical status reports and scheduled meetings.

Attributes to Measure

Effectiveness of service delivery

Example Measures

- Number of client complaints on service delivery
- Percentage of service delivery activities that are carried out according to the plan
- Percentage of deviations of delivery activities from plan for cause (due to delays in installation of technology, nonavailability of qualified and trained personnel)
- Average delay in delivery of service requests compared to those promised to clients
- Variation in actual time and cost taken for service delivery compared to plan

Resource consumption

Example Measures

- Person-hours spent in service delivery activities
- Average time taken to deliver services

Ops_Exe_16 Level 2

Monitor service quality according to defined standards for quality.

Rationale: Continuously monitoring the delivery of service enables an organization to identify deviations in service quality during service delivery. This aids in rectifying identified problems, thereby ensuring client satisfaction.

Inputs

Prerequisites

The quality specification is used to monitor the quality of service. (Ops_Exe_8)

Enhancers

None

Outputs

Dependent Practices

Data from service monitoring is used to identify existing and potential problems. This is necessary to take appropriate corrective and preventive actions. (Ops_Over_4, Ops_Over_5)

Monitoring service quality is used to track service levels achieved compared to commitments made to the clients. (Ops_Exe_17)

The results of monitoring the quality of service is used to make the required modifications to the service. (Ops_Exe_20)

Monitoring service quality aids in defining organizational capability baselines. (KM_Over_2)

Associated Practices

None

Activities for the Organization

1. Monitoring the service delivery is carried out based on the documented quality specification.
2. Define and document the criteria for acceptability of the service.
3. Define the frequency of monitoring.
4. Identify and provide resources required to monitor.
5. Monitor the service delivery activities according to the defined criteria, and at the defined frequency.
6. Document the results of the monitoring.
7. Identify actions to be taken in case the delivered service does not meet the defined criteria for acceptance. Initiate and track the identified actions to closure.

Supplementary Information on Activities

Activity 4. 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 5. Monitoring activities to be carried out as part of service delivery include inspecting and testing of the work products and service delivery infrastructure, and evaluating the performance of personnel as they deliver the service.

Activity 7. Actions to be taken when service levels do not meet requirements include reworking the service design outputs, internal escalation wherever applicable, and client and end-user grievance handling as appropriate.

Attributes to Measure

<u>Effectiveness of monitoring</u>

Example Measures

- Defect removal rate for individual stages of monitoring
- Number of client complaints on quality of service delivered

<u>Consistency of monitoring activity</u>

Example Measures

- Percentage of monitoring activities conducted compared to those planned

<u>Resource consumption</u>

Example Measures

- Percentage of person-hours spent on monitoring compared to person hours spent on service delivery

Ops_Exe_17 Level 2

Establish and implement procedures to periodically track service levels achieved, compare them to commitments made to clients, and take corrective action.

Rationale: Monitoring service levels enables an organization to identify instances of nonadherence to commitments made to clients, in order to prevent their reoccurrence. Data gathered from tracking service levels improves an organization's ability to make feasible commitments to clients.

Inputs

Prerequisites

The contract between the organization and the client defines the service level commitments that require tracking. (Org_Pre_3)

Information for tracking service levels that are dependent on subcontractors is obtained by monitoring subcontractor performance. (Ops_Over_2)

Commitments made to client are clearly identified from the documented client interactions. (Ops_Over_3)

Tracking service delivery activities provides the information required for tracking service levels. (Ops_Exe_15)

Monitoring service quality provides information for tracking service levels. (Ops_Exe_16)

Enhancers

Procedures for remediation enable identification of actions to be taken when deviations are observed in service levels. (Ops_Over_4)

Monitoring performance of technology infrastructure provides inputs for tracking service levels. (Tech_Exe_2)

Activities for the Organization

1. Describe the purpose of implementing procedures to track and control service levels, and identify expected results.
2. Define and document the steps to be taken to track and control service levels. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required to track and control service levels.
4. Identify the personnel who will track and control service levels, and define their roles and responsibilities. Train and authorize the identified personnel.
5. Provide information and tools required for tracking the service levels. Define methods for tracking the service levels.
6. Define and document actions to be taken when service levels do not meet the commitments made to clients.
7. Define channels for communicating, and the performance of service delivery on agreed upon service levels, including criteria for escalation.
8. Track the service levels according to the steps defined.
9. Identify actions to be taken in case service levels do not meet the commitments. Track the actions taken to closure.
10. Maintain documentation on service levels achieved and status of the actions taken in case of deviations.

Supplementary Information on Activities

Activity 2. Steps for tracking service levels define personnel responsible, frequency of tracking, activities to be conducted, targeted service levels and acceptable variations. Work products generated include templates for service performance logbook, reports, deviation reports, action plans, and sign offs.

Activity 5. Information to track the achievement of service levels can be derived from the results of monitoring both the service delivery activities and the performance of the technology infrastructure.

Activity 7. Channels for communication include scheduled meetings, periodical reports, e-mails, and extranets.

Activity 9. Actions to be taken include reporting to client; defining a plan for rectification which specified the personnel responsible, time frames, and resources required; and verifying implementation of planned actions. Actions to be taken are typically specified in the agreement reached with the client.

Attributes to Measure

<u>Effectiveness of service level tracking</u>

Example Measures

- Number of client complaints on service levels
- Percentage of service level tracking activities carried out according to the plan
- Percentage of service level commitments that are met compared to total service level commitments
- Percentage of deviations of service levels observed compared to the commitments made, for cause (due to technology infrastructure problems, and nonavailability of qualified and trained personnel)
- Number of corrective actions taken based on service level tracking

<u>Resource consumption</u>

Example Measures

- Person hours spent in service level tracking activities

Outputs

<u>Dependent Practices</u>

Data from tracking service levels of existing contracts is used when reviewing the feasibility of meeting client requirements in future engagements. (Ops_Pre_5)

Data from tracking of service levels helps an organization make feasible commitments to clients in their responses and proposals. (Ops_Pre_6)

Service level tracking enables an organization to improve its procedures for desiging and deploying services to meet client requirements. (Ops_Exe_1)

Service level tracking is used when defining organizational capability baselines. (KM_Over_2)

The experience gained through achieving the service level committed to provides significant data for the organization’s knowledge base. (KM_Over_6)

<u>Associated Practices</u>

None

Establish and implement procedures to get feedback from the client at designated milestones.

Rationale: Feedback from the client across the contract milestones enables an organization to continuously compare service performance to client satisfaction.

Inputs

Prerequisites

Contracting procedures should address the need for periodically obtaining client feedback. (Org_Pre_3)

Procedures to capture client interactions aids in documenting client feedback. (Ops_Over_3)

The defined responsibilities of a client would include providing feedback at designated milestones. (Ops_Pre_4)

Feedback on a designed service enables an organization to obtain feedback from a client before delivering the service. (Ops_Exe_11)

Use the process specification to deliver the service on which feedback is sought. (Ops_Exe_14)

Enhancers

None

Outputs

Dependent Practices

Client feedback obtained during service design is one way to understanding client perceptions. (Org_Over_8)

Activities for the Organization

1. Describe the purpose of implementing procedures to get feedback from clients at designated milestones, and identify expected results.
2. Define and document the steps to be taken to get feedback from clients at designated milestones. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required to get feedback from the clients.
4. Identify the personnel who will get feedback from the clients, and define their roles and responsibilities. Train and authorize the identified personnel to obtain and analyze feedback from the clients.
5. Identify the parameters on which client feedback is required. Also, identify the parameters on which feedback is required from the end-users of the service, wherever appropriate and feasible.
6. Provide tools to be used for getting client feedback.
7. Identify contact people, media, and methods for communicating with the client organization to get feedback.
8. Get feedback as planned.
9. Aggregate, document, and analyze the results of the feedback gotten. Identify and take appropriate action based on the results of the feedback activity.
10. Document the actions taken and track them to closure.

Procedures for remediation aid in addressing issues identified from client feedback. (Ops_Over_4)

Client feedback aids in validating service design against client requirements. (Ops_Exe_12)

Based on client feedback, the required modifications can be made to the service being delivered. (Ops_Exe_20)

Associated Practices
Process and quality specifications are modified based on feedback received from the client. (Ops_Exe_7, Ops_Exe_8)

Supplementary Information on Activities

Activity 2. Work products include service design information format, feedback formats, templates for minutes of meetings, forms for updating the version library if changes are made, and sign-off templates.

Activity 4. The personnel responsible for obtaining and analyzing client feedback include project managers, the client interaction team, and the management team.

Activity 5. Parameters on which client and end-user feedback is required include 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.

Activity 6. Tools can be structured feedback templates, and extranets.

Activity 7. People who have contact with the client, and on when feedback is requested, include personnel responsible for coordination, reporting and escalation. Methods and media for getting feedback include scheduled meetings, e-mails, and extranets.

Activity 9. Actions arising from client feedback include changes required to service specifications, planned infrastructure, process specifications and quality specifications; and retraining of personnel.

Attributes to Measure

Effectiveness of the client feedback procedures

Example Measures

- Percentage of client feedback activities carried out according to the plan
- Percentage of identified parameters on which the client feedback is not obtained
- Percentage of rework required attributable to delays in obtaining client feedback

Resources consumed

Example Measures

- Person hours spent in obtaining client feedback

Ops_Exe_19 Level 2

Establish and implement procedures to identify the components of the service being offered and track and control changes made to them.

Rationale: Identifying, controlling, and tracking changes to the service components maintain the integrity of the service.

Activities for the Organization

1. Describe the purpose of implementing procedures to track and control changes made to the service components, and identify expected results.

2. Identify the components of the service which need to be reached.

3. Define and document the steps to be taken to track and control the changes made to the service components. Concurrently, indicate the work products to be generated at each step.

4. Identify and provide the resources, including tools, required for tracking and controlling the changes made to the service components.

5. Identify the personnel who will track and control changes made to the service components, and define their roles and responsibilities. Authorize the identified personnel to control the changes made to the service components.

6. Formulate guidelines for assigning identification to the various service components.

7. Assign a unique identifier to all the service components based on the defined guidelines.

8. Ensure that the procedures to track and control change comply with the organization's policies on confidentiality and security.

9. Ensure that the procedures to track and control change comply with the client's requirements for confidentiality, security, and protection of intellectual property.

10. Make changes to the service components in accordance with the defined procedures.

11. Verify the integrity of service components being used to deliver the service.

12. Update the document when changes are made to the service components. Ensure that these changes are appropriately reflected in the identification assigned to the service components.

Inputs

Prerequisites

The changes to service components need to comply with the organization's confidentiality and security policies. (Org_Over_11)

The changes to service components need to comply with the client's requirements for confidentiality, security, and protection of intellectual property. (Ops_Over_6)

The service specification and service design identify and list the components of the service being offered. (Ops_Exe_2, Ops_Exe_5)

Enhancers

None

Outputs

Dependent Practices

Attaching an identifier to a service component allows an organization to identify the most recent version in the reusable component library. (KM_Over_7)

Information on service components enables the identification of competencies, skill-sets and other resources used and developed for a contract. (KM_Exe_2, KM_Exe_3)

Attaching an identifier to a service component facilitates recognition of innovative approaches. (KM_Exe_1)

Associated Practices

None

Supplementary Information on Activities

Activity 2. Components of service design 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. (The service specification and project plan do not form a part of service components.)

Activity 4. Tools used for maintaining traceability include software applications, databases, and search engines.

Activity 7. Identification is assigned to service components by using suitable naming or numbering conventions. An identifier is assigned to components by using a combination of the date of change, title of the component, and state of the component, for example, work in progress, draft, final version, or modified version.

Attributes to Measure

Effectiveness of the tracking and controlling procedure

Example Measures

- Number of change requests submitted
- Number of change requests processed
- Number of service components identified

Resource consumption

Example Measures

- Person-hours required to track and control changes to service components
- Investment in tools to track and control changes in service components

Establish and implement procedures for making modifications to services.

Rationale: Established procedures enable an organization to make modifications to the services in a controlled manner, thereby minimizing impact on the delivery of service.

Inputs

Prerequisites

The procedures for making contract amendments are defined to include making modifications to the service. (Org_Pre_3)

Changes required by the clients are required to be effectively communicated to the service delivery team. (Org_Exe_1)

Capturing client interactions improves the ability of correctly identifying changes required and also aids in resolving disputes, if any. (Ops_Over_3)

Enhancers

Feedback from clients at designated milestones enables identification of required changes to the service. (Ops_Exe_18)

Outputs

Dependent Practices

The required changes can be implemented by modifying service specifications and service design. (Ops_Exe_2, Ops_Exe_5)

Tracking and controlling changes to service components aid in maintaining integrity of the modified service components. (Ops_Exe_19)

Contract amendments may result in changes to technology. (Tech_Exe_1)

Activities for the Organization

1. Describe the purpose of implementing procedures for making modifications to services, and identify expected results.
2. Define and document the steps to be taken to modify the service. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide resources required for modifying the service.
4. Identify the personnel who will modify the service, and define their roles and responsibilities. Authorize the identified personnel to modify the services.
5. Formulate guidelines to control modifications in the service design or delivery.
6. Analyze the impact of proposed modifications on the service being delivered, before making any changes.
7. Obtain client's approval for the proposed modifications.
8. Modify the services offered in accordance with the steps defined.
9. Maintain documentation for all modifications made to the service. Track and control the modifications made.

Supplementary Information on Activities

Activity 6. Impact of proposed modifications can be analyzed by studying the interdependencies among service components identified in the service design and deployment plan, conducting feasibility studies, and testing various pricing models. The impact on service levels and pricing or profitability are the primary areas for the analysis.

Changes initiated due to contract amendments will result in changes to the database of reusable service components. (KM_Over_7)

Associated Practices
None

Activity 7. Client approvals can be obtained in the form of sign offs, and agreed upon meeting minutes.

Activity 8. Examples of modifications to the service include changes to the following: service specification, process specification, quality specification, milestones, and resources, including people and the technological infrastructure.

Attributes to Measure

Effectiveness of service modifications

Example Measures

- Percentage of modifications made to service by cause, such as contract amendments or internal improvement
- Percentage of modification activities not completed as planned

Resource consumption

Example Measures

- Average time taken to complete a service modification

Establish and implement procedures for training clients and end-users as required in the agreement with the client.

Rationale: Client and end-user training is required to ensure the effective deployment and utilization of the delivered service. This improves the level of client satisfaction and also enables clients and end-users to provide valuable feedback for service enhancement.

Inputs

Prerequisites

Training requirements for client and end-users are specified in the contract. (Org_Pre_3)

Enhancers

Cultural attributes need to be considered when preparing and providing training to clients and end-users. (Org_Exe_2)

Outputs

Dependent Practices

Training of clients and end-users is part of the hand-over procedures and is required to maintain continuity of service. (Org_Post_1, Ops_Post_1)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures for training clients and end-users, and identify expected results.
2. Define and document the steps to be taken to prepare and provide training to clients and end-users. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources to prepare and provide training to clients and end-users.
4. Identify the personnel to prepare and provide training to clients and end-users, and define their responsibilities. Train and authorize the identified personnel.
5. Provide suitable facilities for conducting the training.
6. Plan and execute the training based on the steps defined.
7. Maintain documentation of training provided. Track revisions made to the training program and keep them up to date.
8. Initiate actions to obtain client feedback on and their acceptance of the training.
9. Review and improve the training program based on feedback from the client and end-users.

Supplementary Information on Activities

Activity 1. Training to be provided is based on commitments made to the client and is documented in the contract.

Activity 5. Facilities needed for providing training include audio-visual equipment, physical space, training material, connectivity, and bandwidth.

Activity 6. Training can be conducted at the client's premises or at the organization's site. Training can be classroom-based, or done by self-study documentation, self-learning magnetic media or by providing access to specialized web sites.

Attributes to Measure

Comprehensiveness of training provided

Example Measures

- Average number of hours of training provided per contract
- Percentage of contract-specified training activities carried out as planned

Effectiveness of training program

Example Measures

- Rating of effectiveness by client and end-users
- Number of service-related clarifications raised by the client or end-user after the training

Resource consumption

Example Measures

- Person hours spent in client or end-user training activities

Ops_Post_1 Level 2

Establish and implement procedures for handing over resources during contract completion and termination.

Rationale: After contract completion or termination, the hand-over of service-related and client-provided resources ensures a smooth transition either to another service provider or back to the client. This establishes a basis for future relationships with the client.

Activities for the Organization

1. Describe the intent of implementing procedures for hand-over and identify expected results.
2. Define and document the steps to be taken in hand-over. Concurrently, indicate the work products to be generated at each step defined.
3. Define the hand-over activities in the client agreement, as appropriate.
4. Plan and coordinate the hand-over activities with the client.
5. Identify and provide the resources required for executing hand-over activities.
6. Identify the personnel required for hand-over activities and define their roles and responsibilities. Train and authorize the identified personnel to execute and approve the hand-over.
7. Identify, verify, and account for, the resources to be handed over.
8. Carry out the hand-over according to the steps defined.
9. Obtain client acceptance of resources handed over, as required by the agreement with the client.
10. Document the information about resources handed over and the relevant client acceptances obtained.

Supplementary Information on Activities

Activity 3. Hand-over activities include withdrawing personnel from the client site, packing and transporting resources, and installing technology at the client site.

Inputs

Prerequisites

Resources to be handed over and related procedures are defined in the client agreement or contract. (Org_Pre_3)

Procedures for hand-over should meet client requirements for confidentiality, security, and protection of intellectual property. (Ops_Over_6)

Verification and accounting of resources obtained from the client enable identification of resources to be handed over. (Ops_Exe_13)

Training of clients and end-users is done as a part of hand-over. (Ops_Exe_21)

Technology licenses and related intellectual property are to be included in the hand-over. (Tech_Post_1)

Enhancers

Hand-over of resources should also ensure that procedures for continuity of service are maintained, as required. (Org_Post_1)

Outputs

Dependent Practices

Installation and integration of technological infrastructure can be required during the hand-over. (Tech_Exe_1)

Tracking resources handed over aids in maintaining an inventory of skills transferred. (Ppl_Post_1)

Procedures for hand-over aid in capturing competencies, skills, and other resources used in a contract. (KM_Exe_2, KM_Exe_3)

Associated Practices
None

Activity 7. Resources to be handed over include service-related documents, software, hardware, licenses, and personnel. Resources to be handed over 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.

Attributes to Measure

Effectiveness of procedure

Example Measures

- Number of disputes with client regarding the hand-over of resources
- Percentage of handovers completed according to the plan
- Client rating based on feedback received on hand-over activities

Ops_Post_2 Level 2

Obtain and analyze client feedback when a contract is terminated.

Rationale: Getting client feedback after contract termination is essential for understanding the reasons for termination and also for maintaining client relationships. Client feedback, when compared to internal performance targets, provides input to the organization for improvement.

Inputs

Prerequisites

Procedures to capture client interactions enable the organization to capture client feedback effectively. (Ops_Over_3)

Procedures to obtain client feedback at designated intervals provide input to obtain client feedback in case of contract termination. (Ops_Exe_18)

Enhancers

None

Outputs

Dependent Practices

Obtaining client feedback after contract completion provides inputs about client perceptions of the organization and its service. (Org_Over_8)

Client feedback provides input for identifying performance problems and providing appropriate remediation. (Ops_Over_4)

Client feedback provide input for identifying potential performance problems and taking preventive action. (Ops_Over_5)

Client feedback is an input for analyzing experiences from client engagements. (KM_Over_6)

Associated Practices

None

Activities for the Organization

1. When a contract is terminated, identify the attributes of the delivered service that require client feedback.
2. Define and document the steps to be taken in getting the client feedback. Concurrently, indicate the work products to be generated at each step.
3. Identify the personnel responsible for getting client feedback.
4. Identify contact people, media, and methods for getting feedback from the client.
5. Document, aggregate, and analyze the feedback from the client on the delivered service.
6. Based on the analysis of feedback, identify the actions to be taken, including preventive actions, and track them to closure.

Supplementary Information on Activities

Activity 1. Attributes of service on which client feedback is gotten include client satisfaction or dissatisfaction with different attributes of the service delivered, perceptions on the quality of service, personnel, and technology used.

Activity 2. Steps involved in getting feedback include identifying respondents, designing appropriate feedback formats and interfaces, and deciding methods for the analysis of feedback.

Activity 4. Points of contact with client for feedback include personnel responsible for coordination, reporting and escalation at the client and the service provider. Methods and media for feedback include scheduled meetings, e-mails, and extranets.

Activity 6. Actions taken include analyzing the service design, deployment, and delivery activities to identify problems and take appropriate remedial actions; making modifications in organizational procedures; implementing better monitoring on the quality of the service; and planning necessary training for personnel.

Attributes to Measure

Effectiveness of client feedback analysis

Example Measures

- Number of instances where client feedback was not obtained after contract termination
- Percentage of identified parameters on which the client's feedback was not obtained after of contract termination

Resource consumption

Example Measures

- Person-hours spent in obtaining and analyzing client feedback in cases of contract termination

Establish and implement procedures for getting feedback from clients and end-users, and analyzing problems after the contract is completed or terminated.

Rationale: Feedback from clients and end-users enables an organization to identify, analyze, and eliminate problems, and build improvements. Problem analysis enables an organization to prevent problems from occurring in the future.

Inputs

Prerequisites

Performance reviews are used in problem analysis and feedback. (Org_Over_4)

Client feedback obtained at different stages are aggregated for problem analysis. (Ops_Exe_11, Ops_Exe_18)

Obtaining client feedback is necessary before analyzing the feedback. (Ops_Post_2)

Enhancers

Performance reviews are an input for problem analysis and feedback, in cases of termination. (Org_Over_5)

Outputs

Dependent Practices

Causal analysis of the problem provides direction for initiating preventive actions. (Ops_Over_5)

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures to get feedback and analyze problems, and identify expected outcomes.
2. Define and document the steps to be taken to get feedback and analyze problems. Concurrently, indicate the work products to be generated at each step.
3. Identify the parameters on which client and end-user feedback is sought.
4. Identify and provide the resources required for getting feedback and analyzing problems.
5. Assign personnel to get feedback and analyze problems, and define their roles and responsibilities. Train the assigned personnel and authorize them to implement actions derived from analysis of the problem.
6. Furnish necessary tools to be used for getting client and end-user feedback.
7. Identify contact people, media, and methods of communication for getting feedback from the client and the end-user.
8. Get feedback from clients and end-users according to the procedure implemented and the steps defined.
9. Aggregate and document the results of the feedback and analyze for problems.
10. Execute the appropriate action items identified by the designated personnel and complete within defined time frames.
11. Identify and implement preventive actions, as appropriate.

Supplementary Information on Activities

Activity 2. Work products to be generated include templates for feedback, templates for analyzing feedback, and a format for presenting the results.

Activity 3. Parameters on which client and end-user feedback is sought include mismatch in requirements specified compared to delivered service, unsuitability of service delivered, cultural issues, inability to meet service levels, efficiency and effectiveness of response to complaints, accessibility to the personnel involved, interaction experience, and suggested improvements.

Activity 5. Personnel responsible for getting and analyzing feedback can include project managers, the client interaction team, and the management team.

Activity 6. Tools used can be in the form of structured feedback templates and extranets.

Activity 7. Interfaces with clients for feedback include scheduled meetings, point of contact, and media used.

Activity 11. Action items arising from client and end-user feedback include changes in complaint handling; escalation procedures; other organizational procedures for service design, deployment, and delivery; and retraining personnel.

Attributes to Measure

<u>Effectiveness of client feedback analysis</u>

Example Measures

- Percentage of identified parameters on which the client feedback is not obtained, in case of contract completion or contract termination
- Percentage of improvement programs implemented based on the analysis of client feedback obtained after contract completion or contract termination

<u>Resource consumption</u>

Example Measures

- Person-hours spent in obtaining and analyzing client feedback, in case of contract completion or contract termination

Tech_Over_1 Level 2

Establish and implement procedures to track and control changes in the technology infrastructure.

Rationale: An organization maintains the integrity of technology infrastructure through tracking and controlling changes made to it.

Inputs

Prerequisites

Changes in the technology infrastructure should comply with the organization's security and confidentiality policy. (Org_Over_11)

Changes in the technology infrastructure should comply with client requirements for confidentiality, security, and protection of intellectual property. (Ops_Over_6)

Changes to the technology infrastructure should follow the security management procedures. (Tech_Over_2)

Technology licensing provisions in the contract aid in identifying and controlling the changes that are required in technology. (Tech_Pre_2)

Enhancers

None

Outputs

Dependent Practices

Information on the available technology infrastructure enables the identification and introduction of new technology. (Tech_Over_4)

Tracking and controlling changes to the technology infrastructure aids in maintaining records of technology licenses and intellectual property that are to be transferred back to a client during reverse transition. (Tech_Post_1)

Activities for the Organization

1. Describe the purpose of implementing procedures to track and control changes to the technology infrastructure, and identify expected results.
2. Define and document the steps to be taken for tracking and controlling changes to the technology infrastructure. Concurrently, indicate the work products to be generated at each step. Maintain an inventory of the various components in the technology infrastructure.
3. Formulate guidelines for assigning identification to the various components of the technology infrastructure. Assign a unique identifier to all components of the technology infrastructure based on the defined guidelines.
4. Before making changes to the technology infrastructure, analyze the impact on the service design, deployment, and delivery activities, and plan for feasible alternatives.
5. Identify and provide the resources required to track and control changes to the technology infrastructure.
6. Identify personnel who will track and control changes made to the technology infrastructure, and define their roles and responsibilities. Train and authorize the identified personnel.
7. Ensure that the procedures to track and control change comply with the organization's policies on confidentiality and security.
8. Ensure that the procedures to track and control change comply with the client's requirements for confidentiality, security, and protection of intellectual property.
9. Make changes to the technology components in accordance with the defined procedures.
10. Verify the integrity of the technology components being used in the design, deployment, and delivery of the service. Verify that the changed technology continues to serve its intended purpose.
11. Maintain documentation on changes to the technology components. Ensure that these changes are appropriately reflected in the identification assigned to the technology components.

Baselining the technology infrastructure aids in defining the service capability baselines. (KM_Over_2)

Associated Practices
None

Supplementary Information on Activities

Activity 1. 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 3. Identification is assigned to technology components by using suitable naming or numbering conventions.

An identifier is assigned to components by using a combination of the date of change, and the name of the technology component. This identifier is maintained by using version control mechanisms in an asset tracking system.

Activity 4. Impact of 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 8. 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, and controlling access to the Internet.

Activity 10. Verification of technology integrity is done through testing, simulation, and prototyping.

Attributes to Measure

Effectiveness of the tracking and controlling procedure

Example Measures

- Number of technology components identified
- Number of change requests raised
- Number of change requests processed
- Number of instances of mismatches in recorded, compared to actual, technology infrastructure in use
- Average delay in updating records after changes are made to technology infrastructure

Responsiveness of the procedure

Example Measures

- Number of changes made to technology infrastructure by cause, such as antivirus updates and productivity improvements
- Average time taken to update the technology infrastructure after identifying the need for a change

Resource consumption

Example Measures

- Person-hours required to track and control changes to technology components

Establish and implement procedures to manage the security of the technology infrastructure.

Rationale: Implementation of a security management procedure is the key to an organization's ability to protect and distribute the technology resources which are required to meet service levels. Demonstrating an appropriate level of security enhances a client's trust in the organization.

Inputs

Prerequisites

The security management procedures are based on the organization's confidentiality and security policy. (Org_Over_11)

Risk management plans for contract specific risks aid in identifying potential security threats. (Org_Exe_3)

The security management procedures must comply with a client's requirement of confidentiality, security, and protection of intellectual property. (Ops_Over_6)

Enhancers

A risk management policy provides guidance for identifying potential security threats. (Org_Over_10)

Identification and assessment of contract-specific risks improves the ability to identify and respond to security threats. (Ops_Pre_2)

Outputs

Dependent Practices

Procedures for controlling changes to the technology infrastructure should meet the requirements of the security management procedures. (Tech_Over_1)

Activities for the Organization

1. Define the security management procedures based on the organization's security and confidentiality policy.
2. Describe the purpose of implementing the procedures for security management, and identify the expected results.
3. Define and document the steps to be taken to manage security. Concurrently, indicate the work products to be generated at each step.
4. Identify additional security management requirements for specific client engagements.
5. Identify and provide the resources required for security management.
6. Identify personnel who will manage security, and define their roles and responsibilities. Train and authorize the identified personnel.
7. Implement the organization's security management procedure by initiating appropriate actions according to the steps defined.
8. Continuously monitor the internal and external environment to identify evolving threats to an organization's security.
9. Define appropriate actions to be taken for the management of security, in response to the threats identified from the monitoring activity.
10. Document the actions identified and track them to closure.
11. Maintain documentation of changes made to the security management procedures and the actions taken.

Potential threats identified while defining and modifying the security management procedures aid in developing effective disaster management procedures. (Tech_Over_5)

Associated Practices
None

Supplementary Information on Activities

Activity 1. Areas addressed by an organization's security management activities include securing the organization's internal computing resources, that is, 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 4. Additional requirements 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 5. Resources required will include infrastructure, personnel, and tools.

Activity 8. Monitoring internal security can be done by using software tools, that is, encryption software, and public key/private key infrastructure; designated teams; security audits; mock tests and simulations; and deliberate attempts to break into the information infrastructure.

Monitoring of external environment may be done through coordination with specialists, vendors, and subcontractors.

Activity 10. Modification of the security management system may be effected by changing or replacing hardware or software, by redefining procedures, and by using additional personnel.

Attributes to Measure

Effectiveness of the procedure

Example Measures

- Number of reported instances of breach in security
- Service delivery hours lost per month due to security related problems
- Average time taken to restore services after breach in security
- Number of client complaints on breach of security and confidentiality

Responsiveness of the procedure

Example Measures

- Average time taken to update security management systems after identification of external threats

Resource consumption

Example Measures

- Cost of setting up security management systems
- Person-hours spend in managing security management systems

Tech_Over_3 Level 2

Establish and implement procedures for acquiring, deploying, and upgrading technology.

Rationale: An oganization implements procedures to acquire, upgrade, and deploy technology in order to meet committed service levels, and to satisfy security, confidentiality, and regulatory requirements. Established procedures for technology deployment ensure a smooth transition, without any disruption to the services being delivered.

Inputs

Prerequisites

Procedures for selecting vendors are used for acquiring, deploying, and upgrading technology. (Ops_Over_1)

The service specification is the basis for identifying required technology infrastructure. (Ops_Exe_2)

Identified technology is acquired and deployed according to the service design and deployment plan. (Ops_Exe_3)

Technology licensing provisions in a contract aid in acquiring, deploying, and upgrading technology. (Tech_Pre_2)

Enhancers

During the requirements specification stage, estimating the effort needed and time required to upgrade technology provides information for planning its acquisition, deployment, and upgrading. (Tech_Pre_1)

Outputs

Activities for the Organization

1. Describe the purpose of implementing procedures for technology acquisition, deployment, and upgrading, and identify expected outcomes. Use client requirements as a basis for acquiring new technologies.
2. Define and document the steps to be taken for technology acquisition, deployment, and upgrading. Concurrently, indicate the work products to be generated at each step.
3. Identify and provide the resources required to acquire, deploy, and upgrade technology.
4. Identify personnel who will acquire, deploy, and upgrade technology, and define their roles and responsibilities. Train and authorize the identified personnel.
5. Plan the transition of technology into the organization.
6. Transition the technology according to the plan.
7. Identify and analyze problems encountered during transitioning the technology and track them to closure.

Supplementary Information on Activities

Activity 5. Transition planning includes selecting and acquiring technology, installing it, testing it, training involved personnel, and integrating it with existing internal infrastructure and with that of the client.

Dependent Practices
Procedures for technology acquisition and deployment aid in introducing appropriate new technologies in the organization. (Tech_Over_4)

Associated Practices
None

Attributes to Measure

Effectiveness of the procedure

Example Measures

- Percentage of technology acquisition, deployment, and upgrading activities carried out according to the plan
- Number of instances of not meeting service level commitments attributable to delay in technology acquisition, deployment, and upgrading
- Percentage of service delivery failures attributable to inadequate or inappropriate technology infrastructure
- Average time taken to acquire, deploy, and upgrade technology after identifying the need for it

Resource consumption

Example Measures

- Person-hours spent in deploying technology

Establish and implement procedures to identify and introduce appropriate technology.

Rationale: An organization implements procedures to identify and introduce appropriate technology in order to improve their performance and to achieve long-term organization objectives. An organization needs to keep pace with technology changes to remain competitive.

Inputs

Prerequisites

Identification and introduction of appropriate technology is done by the team designated for monitoring technology innovations. (Ppl_Over_12)

Procedures for technology acquisition and deployment aid in introducing appropriate technologies. (Tech_Over_3)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures to identify and introduce appropriate technology, and identify expected results.

2. Define and document the steps to be taken to identify and introduce appropriate technology. Concurrently, indicate the work products to be generated.

3. Analyze and document the impact that changes to the technology infrastructure will have on current operations.

4. Identify and provide the resources required to introduce appropriate technology.

5. Identify appropriate technology by using the analysis conducted by the team responsible for monitoring technology innovations. Identify the personnel who will implement the selected technology options, and define their roles and responsibilities. Authorize the identified personnel to introduce changes to the technology infrastructure.

6. Evaluate technology options for their appropriateness and feasibility before committing to a specific option.

7. Plan the transition of selected technology options into the organization based on the defined steps.

8. Transition the selected technology according to the plan.

9. Review the performance of the new technology, for its effectiveness and utility, in comparison to the planned performance results.

10. Document actions arising from the performance review of the new technology, and track them to closure.

Supplementary Information on Activities

Activity 1. Organizational objectives, problems faced in operations, and changes in external environment provide directions for the introduction of new technologies.

Activity 3. The impact of new technology may include the need for training to operate the new technology, time required to integrate the new technology into normal operations, and other necessary infrastructure changes.

Activity 6. The evaluation of new technology may include an analysis of investment made compared to benefits expected, references to organizations where similar technology has been implemented, inputs on the experience of other users, the conducting of trials, and an analysis of obsolescence and replacement time span.

Activity 7. Transition planning includes scheduling, projecting time frames, selecting and acquiring technology, installing, integrating, testing, and training users.

Attributes to Measure

Effectiveness of the procedure

Example Measures

- Number of new technologies identified
- Percentage of new technologies tested in a pilot program compared to those identified
- Percentage improvement in operational efficiency (cycle time reduction), attributable to new technology
- Percentage of new technology introductions that meet planned results

Resource consumption

Example Measures

- Person-hours spent in implementing pilot programs for new technologies
- Average number of hours of training given to personnel on new technologies
- Percentage of investment in new technology compared to total investment in technology

Establish and implement procedures to identify the potential for, the response to, and the recovery from, adverse situations which affect the ability of the organization to provide service.

Rationale: The agility with which an organization can recover from, and respond to, adverse situations, minimizes its affect on the service delivery and associated monetary loss - both for itself and for its clients. The ability of an organization to recover from adverse situations is a key factor in their selection by a client.

Inputs

Prerequisites

Defined organizational roles, responsibilities, and authority, enable the organization to formulate recovery and coordination procedures to effectively manage adverse situations. (Org_Over_2)

When formulating procedures for managing adverse situations, take into account the organization's confidentiality and security policy. (Org_Over_11)

Contract-specific risks are used to formulate procedures to respond to potential threats. (Org_Exe_3)

A client's requirements for security, confidentiality, and protection of intellectual property should be complied with, while formulating procedures for recovery from adverse situations. (Ops_Over_6)

Enhancers

The organization's risk management policy identifies potential adverse situations and threats and provides guidance on their management. (Org_Over_10)

Identifying and assessing contract-specific risks enables an organization to recognize and respond to potentially adverse situations. (Ops_Pre_2)

Activities for the Organization

1. Describe the purpose of implementing procedures for identifying and responding to adverse situations, and identify expected results.
2. Define and document the steps to be taken to identify and respond to adverse situations. Concurrently, indicate the work products to be generated.
3. Obtain inputs from clients, as appropriate, to identify adverse situations.
4. Identify and provide resources required to respond to adverse situations.
5. Identify personnel who will identify and respond to adverse situations, and define their roles and responsibilities. Train and authorize the identified personnel.
6. Prioritize the identified adverse situations when planning the organization's response.
7. Identify and implement appropriate preventive actions to reduce the impact of adverse situations on the organization, especially on service design, deployment, and delivery activities.
8. Prioritize the organizational functions to be targeted for recovery, in case of an adverse situation.
9. Define the activities to be carried out for stabilizing the situation, in case of an adverse situation.
10. Define the activities needed to recover technology and information resources. Indicate the time and effort required for the activities defined.
11. Define a coordination and communication plan for all stakeholders.
12. Test the effectiveness of the recovery plans at regular intervals.
13. Identify and document the actions taken, and track them to closure.

Identifying preventive actions aid in implementing the disaster recovery plan. (Ops_Over_5)

Outputs

Dependent Practices

None

Associated Practices

None

Supplementary Information on Activities

Activity 2. An organization's response to adverse situations will typically be documented in the form of a disaster recovery and business continuity plan. 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.

Activity 6. Events that have an adverse impact on the organization's operations can be classified as external, that is, natural, man-made, technological, and political; and internal, that is, technological, accidents, and intentionally carried out disruptions, including strikes.

Activity 7. Examples of preventive methods include building redundancies in technology infrastructure, provisioning alternative sites to ensure continuity of operations in case of failure of the primary site, provisioning fire-fighting equipment, regular back-ups, off-site storage; and installing fire alarms.

Activity 9. 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 11. 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 affected stakeholders.

Attributes to Measure

Effectiveness of the procedure

Example Measures

- Number of tests carried out to evaluate the readiness of the disaster recovery and management procedures
- Percentage of successful restorations during testing
- Internal rating of the disaster recovery plan on comprehensiveness, adequacy, and feasibility
- Number of instances of disaster preparedness activities, not carried out as per plan
- Client feedback on adequacy of disaster recovery procedures

Resource Consumption

Example Measures

- Cost of disaster preparedness including data back-up, technology and infrastructure redundancy, and personnel back-up

Tech_Pre_1 Level 3

Define the effort needed and time required for upgrading or acquiring new technology when responding to client requirements.

Rationale: An organization's ability to rapidly and comprehensively respond to a client's requirements for new technology indicates capability. Defining the effort and time required for acquiring new technology during requirements specification is an indication of an organization's preparedness and builds client confidence.

Inputs

Prerequisites

Reviewing the feasibility of meeting technology infrastructure requirements before responding to a client to provide direction for the definition of effort and time required to upgrade or acquire technology. (Ops_Pre_5)

Enhancers

Teams who are monitoring technology innovations provide direction on the effort and time required to adopt a new technology. (Ppl_Over_12)

Outputs

Dependent Practices

None

Associated Practices

Accurately defining the effort and time required to upgrade or acquire technology, in response to client requirements, aids in setting client expectations. (Ops_Pre_6)

During requirements specification, defining the effort and time required to upgrade or acquire new technology, enables the organization to implement the technology according to plan. (Tech_Over_3)

Activities for the Organization

1. Obtain information on the lead-time needed for acquiring technology from the technology monitoring and acquisition schedule.

2. Provide the designated client interaction teams with access to this information.

3. Authorize personnel to approve commitments made to clients regarding the effort and time required for upgrading or adopting new technology.

4. Incorporate the information on lead-time and effort involved when responding to client requirements.

Supplementary Information on Activities

Activity 4. The effort needed and time required include the cost of resources involved in acquiring and adopting technology, statutory, and other legal issues that need to be complied with, and the organization's or client's security management requirements.

Attributes to Measure

Effectiveness of estimation

Example Measures

- Average time taken to upgrade technology to meet specific client requirements
- Percentage of technology upgrades or acquisition carried out within the defined time frame
- Percentage of technology deployment activities carried out within the defined time frame
- Number of potential contracts lost due to inability to meet client's technology acquisition and deployment schedule

Tech_Pre_2 Level 2

Incorporate the licensing of technology as part of agreements made with clients.

Rationale: Incorporating necessary technology licenses, as part of an agreement with a client, is essential for an organization to avoid liabilities and legal actions that could impact its service performance. This also aids in building a client's trust in the organization.

Inputs

Prerequisites

Contracting procedures ensure that a contract will include terms and conditions for the licensing of technology. (Org_Pre_3)

A client's intellectual property typically includes the licenses for technology to be used in the design, deployment, and delivery of service. (Ops_Over_6)

Enhancers

None

Outputs

Dependent Practices

Technology licensing is a key issue requiring client agreement. (Ops_Pre_7)

Associated Practices

None

Activities for the Organization

1. Identify a client’s proprietary technology resources that will be used in designing, deploying, and delivering the service.
2. Identify the technology resources that need to be obtained from third parties.
3. Coordinate with clients and third parties to obtain the required licenses.
4. Verify the authenticity of licenses accompanying the resources being obtained from a client.
5. Maintain documentation on all applicable licenses.
6. Renew the licenses as appropriate.

Supplementary Information on Activities

Activity 1. Resources of a proprietary nature include specific software components, software applications, hardware components designed for a specific purpose, hardware locks, and dedicated bandwidth. As part of the contract, a client will provide some technology components that are specific to the service to be developed.

Activity 4. The price, reliability, expiration, renewal methods, and hand over procedures are verified by the organization and relevant documentation is maintained.

Activity 6. Renewal may be required due to the expiration of licenses, extension of the contract, release of new versions, and modifications done by the client to the proprietary software based on requests by the organization.

Attributes to Measure

Effectiveness of technology licensing

Example Measures

- Number of technology licenses obtained
- Number of instances of client-supplied technology not having appropriate licenses
- Instances of renewal of technology licenses not carried out according to the plan

Tech_Exe_1 Level 2

Establish and implement procedures to integrate an organization’s technology infrastructure with that of the client, as appropriate.

Rationale: Procedures for integrating an organization’s technology infrastructure with that of the client prevent service disruptions and security lapses during service deployment before initiating service delivery. This also ensures that service deployment proceeds as planned, with optimum utilization of the allocated resources.

Inputs

Prerequisites

The procedures for technology integration should comply with the organization's confidentiality and security policy. (Org_Over_11)

The procedures for technology integration should comply with a client’s requirement for confidentiality, security, and protection of intellectual property. (Ops_Over_6)

Technology integration is an integral part of design and deployment activities. (Ops_Exe_1)

Procedures to control and track changes made to the technology infrastructure are initiated during the integration of technology. (Tech_Over_1)

Technology infrastructure is integrated based on the procedures for managing security. (Tech_Over_2)

Enhancers

Consideration of cultural attributes improves the effectiveness of technology integration. (Org_Over_2)

Activities for the Organization

1. Describe the purpose of implementing procedures to integrate the organization’s technology infrastructure with the client’s, and identify expected outcomes.
2. Define and document the steps to take to integrate the organization’s and client’s technology infrastructure. Concurrently, indicate the work products to be generated. Incorporate the technology integration plan into the service design and deployment plan.
3. Identify and provide the resources required to integrate the technology infrastructure.
4. Identify the personnel who will integrate the technology infrastructure, and define their roles and responsibilities. Train and authorize the identified personnel.
5. With the client, define the contact people and technology components required for technology integration. Analyze the components for their compatibility before initiating integration.
6. Identify and select suitable subcontractors and vendors to provide the required technology infrastructure and to do the integration.
7. Evaluate the security issues related to the technology integration, and take whatever action is necessary.
8. Identify the need for the integration of technology components.
9. Integrate the technology infrastructure based on the defined steps. Review the performance of the integrated technology infrastructure for its effectiveness and utility in comparison to the planned performance results.
10. Obtain appropriate client approval on the technology integration.

Outputs

Dependent Practices

Technology performance is monitored and measured to ensure that integration achieves the planned performance results. (Tech_Exe_2)

Associated Practices

None

11. Identify the end-users of the integrated technology infrastructure and provide them the accessibility they need.

12. Monitor and maintain the integrated technology infrastructure based on agreements with clients.

13. Identify actions to take based on the monitoring activity, and track them to closure.

Supplementary Information on Activities

Activity 5. Contact people include personnel allocated, and their hierarchy and functions. Technology components include both physical and functional. For example, physical components such as network couplers and database bridges, and functional components, such as user interface screens.

Activity 7. 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.

Activity 8. The need for the integration of technology components can be identified during the capturing of client requirements or it may be proposed by the organization.

Activity 9. Technology components that are integrated include extranets, databases, enterprise software applications, servers, and web sites.

To review and evaluate the performance of integrated technology infrastructure, prior to going live, the organization uses dry runs, simulation, and overload tests.

Attributes to Measure

Effectiveness of technology integration procedure

Example Measures

- Rating by client on the effectiveness of technology integration
- Percentage of technology integration activities carried out according to plan
- Number of changes to security management systems done based on requirements for technology integration

Resource consumption

Example Measures

- Person-hours spent in integration of technology infrastructure
- Time required for integrating technology infrastructure

Monitor and measure the performance of the technology infrastructure that is needed to deliver the service according to agreed upon service levels.

Rationale: An organization monitors and measures the technology infrastructure in order to identify performance shortfalls, and to be able to take necessary actions to maintain the level of service committed to. This also provides direction for upgrading or acquiring appropriate technology.

Inputs

Prerequisites

The technology monitoring plan is defined at the time of service design. (Ops_Exe_5)

Technology monitoring is carried out during the delivery of service. (Ops_Exe_14)

Enhancers

None

Outputs

Dependent Practices

The results of monitoring the technology provides guidance for acquiring new technologies. (Tech_Over_4)

Associated Practices

Planned technology monitoring improves the ability to track service levels. (Ops_Exe_17)

The results of monitoring the performance of existing technology aids in identifying required upgrades. (Tech_Over_3)

Activities for the Organization

1. Identify which components of the technology infrastructure will be monitored.

2. Identify the attributes to be monitored for each component of the technology infrastructure.

3. Develop methods for monitoring the technology components, and define performance measures for the identified attributes.

4. Identify and provide the resources and tools required to monitor the technology infrastructure. Identify and train the personnel who will monitor the technology infrastructure.

5. Monitor the performance of identified components of the technology infrastructure according to the method developed and at a predefined frequency.

6. Analyze and document the results of monitoring in order to identify the actions to take. Implement identified actions and track their progress to closure.

Supplementary Information on Activities

Activity 1. Technology components that are covered by the monitoring include networks, workstations, software applications, communication equipments, interfaces developed for integrating with the client, operating systems, and networking equipment.

Activity 2. Attributes to monitor include performance, availability, responsiveness, utilization, recoverability, and security.

Activity 3. 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 4. Tools used to monitor the technology infrastructure include specialized software and hardware.

Activity 6. Identified actions include upgrading or replacing hardware, software, or network equipment.

Attributes to Measure

Comprehensiveness of monitoring plan[1]

Example Measures

- Objective rating of technology monitoring plan by internal team

Effectiveness of monitoring

Example Measures

- Number of proactive responses initiated to prevent service failures, based on monitoring
- Number of client complaints on quality of service delivered attributable to technology

Consistency of monitoring activity

Example Measures

- Percentage of monitoring activities conducted compared to those planned

Resource consumption

Example Measures

- Percentage of person-hours spent on technology monitoring compared to person-hours spent on service delivery
- Percentage cost for monitoring infrastructure compared to total cost for technology infrastructure

[1] Attributes of comprehensiveness includes coverage, usefulness, and accuracy.

Tech_Post_1 Level 2

Establish and implement procedures to transfer technology licenses and intellectual property during reverse transition.

Rationale: The handover of technology licenses and intellectual property enables an organization to meet the client's requirements for confidentiality and protection of their intellectual property. It also enables the organization to avoid liabilities, and maintain a positive image with the client.

Inputs

Prerequisites

The procedures for transfer of technology licenses and intellectual property should comply with the organization's confidentiality and security policy. (Org_Over_11)

The procedures for transfer of technology licenses and intellectual property should comply with a client's requirements for confidentiality, security, and protection of intellectual property. (Ops_Over_6)

The procedures for verifying and accounting for resources provided by a client enables organizations to identify which technology components and intellectual property are to be transferred back to that client. (Ops_Exe_13)

The procedures for transfer of technology are based on the overall hand over procedures. (Ops_Post_1)

Enhancers

None

Outputs

Dependent Practices

Smooth transfer of technology licenses and intellectual property to the client aids in developing long-term relationships with the client. (Org_Over_7)

Activities for the Organization

1. Describe the purpose of implementing procedures to transfer technology licenses and intellectual property back to the client, and identify expected results.
2. Identify the technology licenses and intellectual property to be transferred back to the client.
3. Define and document the steps to take to transfer technology licenses and the client’s intellectual property. Concurrently, indicate the work products to be generated.
4. Identify and provide the resources required to transfer technology licenses and intellectual property back to the client.
5. Identify the personnel who will transfer technology licenses and intellectual property back to the client, and define their roles and responsibilities. Train and authorize the identified personnel.
6. Ensure that the procedures to transfer technology licenses and intellectual property comply with the organization’s policies on confidentiality and security.
7. Ensure that the procedures to transfer technology licenses and intellectual property comply with the client’s requirements for confidentiality, security, and protection of intellectual property.
8. Plan and coordinate the transfer of technology licenses and intellectual property with the client.
9. Transfer the technology licenses and intellectual property back to the client according to the steps defined.
10. Initiate actions to obtain client approval of the transferred technology licenses and intellectual property.
11. Maintain documentation on the transferred licenses and intellectual property.

Associated Practices

None

Supplementary Information on Activities

Activity 2. The technology licenses to be transferred back to the client include all technology components provided by the client, or licensed software acquired specifically for a particular client engagement.

The intellectual property to be transferred back to the client includes trademarks, copyrights, designs, drawings, layouts, and other proprietary technology developed for the client or supplied by the client.

Attributes to Measure

Effectiveness of technology transfer during reverse transitioning

Example Measures

- Percentage of transfer activities carried out according to the plan
- Client rating on the effectiveness of the transfer of technology licenses and intellectual property
- Number of legal liabilities arising from issues related to the transfer of technology and intellectual property

KM_Over_1 Level 3

Identify, collect, and furnish performance measures for established procedures and programs.

Rationale: Performance measures for procedures and programs enable an organization to effectively and objectively monitor its performance. Measurements provide an organization with the information required to control and improve its operations.

Inputs

Prerequisites

Tracking, monitoring, and measuring practices provide inputs for measurement. (Ops_Over_2, Ops_Exe_6, Ops_Exe_15, Ops_Exe_16, Ops_Exe_7, Tech_Exe_2, KM_Exe_3)

Enhancers

Validation of performance measures are used to refine the measures and the methods of collection and dissemination of measurement data. (KM_Over_3)

Outputs

Dependent Practices

Measures provide objective information for reviews. (Org_Over_4)

Measures provide objective information for verification of activities. (Org_Over_12, Org_Over_13)

Organizational capability baselines are derived by analyzing performance data. (KM_Over_2)

Associated Practices

None

Activities for the Organization

1. Define and prioritize objectives for the performance measurement activities.

2. Define the steps needed to identify and collect performance measures for procedures and programs. Concurrently, indicate the work products to be generated at each step.

3. Define measures for monitoring the performance of implemented procedures and programs.

4. Formulate guidelines at appropriate levels of the organization that include methods for collecting performance measures and the personnel responsible for the collection. Make the guidelines available to the relevant personnel.

5. Allocate resources, including tools required, for identifying and collecting performance measures.

6. Implement mechanisms to automatically capture data wherever appropriate and feasible.

7. Capture, aggregate, and analyze performance data. Make the results of the analysis available to personnel, as appropriate.

8. Identify actions to be taken based on the results of measurement activities.

9. Take appropriate preventive or remedial action in instances where the measurements indicate deviations from the intended outcome.

10. Define baselines for organizational capability using the results of measurement analysis.

Supplementary Information on Activities

Activity 3. 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 5. Examples of tools used to capture data are software programs and standard templates.

Activity 6. Examples of automatically captured data are time-stamped activity logs and process generated data.

Activity 7. Sources of data for performance measures typically include efforts expended in establishing and implementing the procedures and programs; monitoring and tracking activities during service design, deployment and delivery; technology; and subcontractor or vendor performance.

Attributes to Measure

Coverage of performance measurement activities

Example Measures

- Percentage of procedures and programs covered by the performance measurement activities

Consumption of resources

Example Measures

- Investment in tools for supporting performance measurement data collection, analysis, and presentation
- Person-hours spent on measurement

Effectiveness of the measurement process

Example Measures

- Frequency of usage of measurement results
- Percentage of missed measurement activity compared to planned measurement activity
- Variation in the frequency with which the measurement results are used, across organizational levels
- Rating of measurement programs by internal team, for example, evaluation for objectivity, alignment with organizational objectives, usefulness, and timeliness

Define capability baselines for the organization by analyzing performance data.

Rationale: An organization can use capability baselines to predict performance, make accurate estimates, and improve the quality of its response to client requirements. Capability baselines also enable an organization to initiate and track improvement efforts.

Inputs

Prerequisites

Information on existing skills is used when aggregating and analyzing capability baselines. (Ppl_Over_3)

Information on technology infrastructure is used when aggregating and analyzing capability baselines. (Tech_Over_1)

Measures of performance are analyzed to derive capability baselines. (KM_Over_1)

Client requirements are used when aggregating and analyzing capability baselines. (KM_Pre_01)

Enhancers

None

Outputs

Dependent Practices

Capability baselines enable identification of opportunities for improvement in capability. (Org_Over_5)

Capability baselines provide direction for benchmarking. (KM_Over_4)

Associated Practices

Capability baselines improve the ability to review feasibility and respond to client requirements. (Ops_Pre_5, Ops_Pre_6)

Activities for the Organization

1. Define steps for using performance measures to derive capability baselines.
2. Define guidelines on the nature of the analysis, including how often to conduct the analysis.
3. Collect, aggregate, and analyze performance measures to derive capability baselines.
4. Derive organizational capabilities, including current performance levels and acceptable variations, and develop capability baselines. Use statistical techniques for developing baselines, as appropriate.
5. Verify that the capability baselines are linked to different types of services and organizational resources used, as appropriate.
6. Set goals for performance levels to be achieved and for acceptable variations.
7. Initiate improvement programs for areas of operation in which the current performance levels are not meeting organizational goals.
8. Update capability baselines periodically or on an event-driven basis.
9. Analyze changes in performance capabilities looking for causes, and take appropriate actions.

Supplementary Information on Activities

Activity 3. Performance measures are aggregated by type of service, type of resources used, and type of clients. Examples of types of resources used are skills and technology. Examples of types of clients include business segment and geographical location.

Activity 4. Organizational capability baselines include time-to-deliver, time-to-respond, number of defects, and cost.

Activity 5. The baselines are linked to specific resources used, for example, skill sets, personnel, technology, materials, subcontractors or vendors, and type of service.

Attributes to Measure

Correctness of baselines (for time, efforts and service levels)

Example Measures

- Number of deviations from plan in service design and delivery attributed to incorrect baseline data
- Frequency of updating baseline data

Usefulness of baseline data

Example Measures

- Percentage of activities or functions using baseline data for estimation and planning
- Percentage of procedures having defined baselines

Establish and implement procedures to validate the results of performance measures.

Rationale: To initiate meaningful improvement efforts, an organization needs to gain an accurate understanding of its processes and identify areas for improvement. Periodic validation ensures that the performance measures used by an organization to monitor its activities are accurate and are relevant to the prevailing business environment of the organization.

Inputs

Prerequisites

Defined performance measures are validated. (KM_Over_1)

Enhancers

None

Outputs

Dependent Practices

Validation of measurements enables the definition of accurate and relevant capability baselines. (KM_Over_2)

Associated Practices

Validation improves the relevance of performance measures used in reviews. (Org_Over_4)

Validation improves the relevance of measures used for verification. (Org_Over_12, Org_Over_13)

Activities for the Organization

1. Describe the intent of implementing procedures for validating the results of performance measures, and identify expected results.
2. Define and document the steps to be taken in validating the accuracy and relevance of the results of performance measures. Concurrently, indicate the work products to be generated at each step.
3. Formulate and make available guidelines for validating individual performance measures.
4. Identify and provide the resources required to validate the results of performance measures.
5. Identify personnel who will validate the results of performance measures and define their roles and responsibilities. Train and authorize the identified personnel.
6. Furnish the tools required for validation.
7. Validate the results of the performance measurement activity.
8. Analyze the results of the validation activity and identify appropriate actions to be taken.
9. Document actions to be taken and track them to closure.

Supplementary Information on Activities

Activity 2. Validating the accuracy of the measurements is done by internal cross verification, that is, comparing the results with the outcome of the measurement process done by clients and subcontractors or vendors. Validating the relevance is done by obtaining feedback from personnel, clients, and subcontractors on the relevance of the measures.

Activity 9. Actions to be taken include revising the measures and the goals of the measurement process, refining measures, adding new measures, removing unwanted measures, reviewing reporting methods, revising the analysis, and revising and improving the tools used.

Attributes to Measure

Comprehensiveness of procedure

Example Measures

- Percentage of measurements covered by the validation activities

Accuracy of measurement results

Example Measures

- Errors observed in results of measurements during validation
- Number of instances of changes to measures or methods based on validation results
- Number of complaints from stakeholders on inaccuracy of reported results

Analyze comparative data from external and internal sources and use it to benchmark organizational performance.

Rationale: Benchmarking organizational performance against best-in-class performances by external organizations or by specific teams or functions within the organization, enables an organization to identify opportunities for improvement. It also enables an organization to convey to the rest of the organization the benefits of improvements made by specific teams or functions.

Inputs

Prerequisites

Periodic reviews are used for benchmarking. (Org_Over_4)

Monitoring of technology innovations provides guidance for benchmarking technology. (Ppl_Over_12)

Measures of performance provide guidance for benchmarking. (KM_Over_1)

Analysis of capability baselines provides guidance for benchmarking. (KM_Over_2)

Market information on prospective clients provide external data for benchmarking. (KM_Pre_2)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Designate personnel to identify external and internal performance data to be used for benchmarking.
2. Systematically identify and utilize sources of external benchmark information.
3. Use the results of performance measurement and analysis to identify internal benchmark data.
4. Evaluate the applicability of external and internal benchmark data.
5. Modify organizational procedures and systems based on benchmark information.

Supplementary Information on Activities

Activity 2. The organization obtains benchmark information from external sources by participating in, or by acquiring, benchmark surveys.

Activity 3. The organization collects internal benchmark information, for example, performance data, effort spent, and client satisfaction, from project teams that have exceeded the organization's and the client's expectations.

Activity 5. The organization makes modifications to technology used, such as service delivery process adopted, and service design and deployment activities, based on benchmark information.

Attributes to Measure

Comprehensiveness of the benchmarking

Example Measures

- Number of benchmarking efforts undertaken

Effectiveness of benchmarking results

Example Measures

- Number of improvement programs initiated based on benchmarking

Effectiveness of the benchmarking

Example Measures

- Percentage reduction in response time to meet client requirements
- Percentage reduction in time or effort taken to design and deploy a service
- Percentage reduction in time or effort taken to deliver services
- Percentage improvement in personnel satisfaction
- Percentage improvement in client satisfaction

KM_Over_5 Level 2

Identify, control, and make available the information required to implement activities defined in the organization’s procedures.

Rationale: Access to required information, such as policies, procedures, and guidelines, is essential for personnel to perform the activities they are responsible for implementing. Adequate control of information enables an organization to maintain the desired levels of security and confidentiality.

Inputs

Prerequisites

Access to information for personnel is determined by their roles and responsibilities. (Org_Over_2)

Access to information should comply with the organization's security and confidentiality policy. (Org_Over_11)

Access to information should meet client requirements for confidentiality, security, and protection of intellectual property. (Ops_Over_6)

Enhancers

None

Outputs

Dependent Practices

Timely access to required information is key to an effective work environment. (Ppl_Over_6)

Associated Practices

None

Activities for the Organization

1. Assign personnel to identify the information needed to implement procedures. Define roles and responsibilities of assigned personnel.
2. Define the procedures to be used for preparing, collecting, and approving the information.
3. Identify and authorize personnel who can approve the information collected.
4. Have authorized personnel review the information for correctness, clarity, and adequacy before approving it.
5. Formulate guidelines, including methods and media, for organizing and making available information.
6. Identify the information which is needed to track and control changes.
7. Provide access to information based on personnel's defined roles and responsibilities.
8. Ensure that the procedures for accessing information comply with the organization's security and confidentiality policy.
9. Modify procedures for access to information in order to meet the client’s requirements for security, confidentiality, and protection of intellectual property.
10. When changes occur in the organization that affect information, update the information collected, within defined time frames.

Supplementary Information on Activities

Activity 1. Information needed to implement the organization's procedures includes:

Documented procedures.

For procedures relating to subcontracting, a list of vendors is needed. For personnel designation procedures, personnel skill information is needed. For correctional preventive action procedures, measurement feedback is needed.

Sample outputs from the procedure, such as sample project plan or service specification.

Data on previous experiences of implementation of the procedures such as effort, time, and cost; errors or difficulties encountered; suggestions.

Activity 6. The organization typically develops standard templates for information that include identification and version information. Standard numbering and naming conventions assist in identification of the information and their version control.

Activity 7. Organizations may use technology such as intranets, the Internet, and compact discs, to provide access to required information.

Attributes to Measure

Effectiveness of information availability

Example Measures

- Number of hours training personnel on usage of information
- Average time taken to search and retrieve required information
- Personnel rating on adequacy, relevance, correctness, clarity, and timeliness of information

Integrity of information availability

Example Measures

- Delay in updating information after change
- Number of revisions done to information
- Average number of days since last update of information
- Percentage of information updates happening according to defined time frames

Establish and implement procedures for the capture, analysis, and dissemination of knowledge gained from client engagements.

Rationale: An organization uses knowledge gained from experience to stabilize current performance and provide improved service levels. This also results in improvement of overall organizational performance.

Inputs

Prerequisites

None

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Describe the intent of implementing procedures to capture, analyze, and disseminate knowledge gained from client engagements, and identify expected results.
2. Formulate guidelines, including methods and media, for collecting, organizing, and making knowledge available.
3. Define and document the steps involved in capturing, analyzing, and disseminating knowledge. Concurrently, indicate the work products to be generated at each step.
4. Identify and provide the resources required to capture, analyze, and disseminate knowledge.
5. Identify the personnel who will capture, analyze, and disseminate knowledge and define their roles and responsibilities. Train and authorize the identified personnel.
6. Capture the knowledge gained through experience in a data repository.
7. Review knowledge for correctness, clarity, and adequacy before providing access to it.
8. Keep knowledge up to date based on defined procedures. Establish guidelines for acceptable time frames for updating the information.
9. Monitor the usage of available knowledge and take appropriate action.
10. Use knowledge gained from client engagements to improve existing operations and to plan for new contracts.

Supplementary Information on Activities

Activity 1. Knowledge gained from past client engagements include the following types.

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, their style of working.

Activity 3. Methods to disseminate knowledge include databases, intranets, and meetings.

Attributes to Measure

Integrity of knowledge regarding client experience

Example Measures

- Personnel rating on adequacy, relevance, correctness, clarity, and timeliness of knowledge
- Percentage of knowledge updates happening according to the defined time frames

Effectiveness of procedure

Example Measures

- Frequency of accessing the knowledge repository
- Variation in frequency of accessing the knowledge repository across organizational levels

Benefits derived from reuse of experience

Example Measures

- Percentage reduction in response time to meet client requirements
- Percentage reduction in time or effort taken to design and deploy a service
- Percentage reduction in time or effort taken to deliver services
- Percentage improvement in client satisfaction

KM_Over_7 Level 3

Establish and implement procedures to identify, collect, and reuse work products and service components.

Rationale: An organization can save considerable amounts of effort, time, and cost by reusing relevant work products and service components that were developed for previous client engagements. This leads to a reduction in the time the organization needs to respond to client inquiries and service requests.

Inputs

Prerequisites

Identifying, tracking, and controlling changes to service components is used for identifying reusable service components. (Ops_Exe_19)

Enhancers

Procedures for dissemination of experiences and knowledge sharing aid in disseminating knowledge of reusable service components. (KM_Over_6, KM_Over_8)

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Describe the intent of implementing procedures to identify, collect, and reuse, work products and service components, and identify expected results.
2. Formulate guidelines to identify reusable work products and service components.
3. Define and document the steps to be taken in identifying, collecting, and furnishing work products and service components.
4. Identify and provide the resources required to identify, collect, and make available, reusable work products and service components.
5. Assign the personnel who will identify and collect reusable work products and service components. Define roles and responsibilities for assigned personnel.
6. Systematically collect reusable work products and service components and keep them up to date.
7. Review work products and service components for their integrity and usability, before making them available for reuse.
8. Ensure that personnel have access to information on the work products and service components that are available for reuse.
9. During planning and estimating activities, consider options for reusing work products and service components.
10. Make necessary modifications before reusing work products and service components.
11. Monitor the use of work products and service components that are available for reuse, and take appropriate action.

Supplementary Information on Activities

Activity 2. Reusable service components include documentation, specifications, customized software, procedures, and technology components.

Activity 6. The organization may consider setting up a reusable electronic library or database, where the artifacts are catalogued. Reasonable control is kept on library usage, it is accessible to personnel, security and confidentiality is maintained, and usage is monitored for improving the contents of the library.

Activity 11. Appropriate action includes removal of service components which are not being used; updating the records; providing more facilities, such as hardware and bandwidth, for frequently used components and work products; and improving searchable databases.

Attributes to Measure

<u>Usefulness of database of components and work products</u>

Example Measures

- Number of instances of accessing components or work products from the database
- Number of instances of reuse of components or work products reported

<u>Usability of database of components and work products</u>

Example Measures

- Average time taken to search and retrieve reusable components or work products

<u>Resource consumption</u>

Example Measures

- Person-hours spent to collect, validate and arrange material in reuse database

<u>Benefits of reuse of components or work products</u>

Example Measures

- Person-hours saved
- Reduction in time taken to respond to client requirements and in service design and delivery activities

Establish and implement procedures for sharing knowledge among stakeholders.

Rationale: Sharing knowledge among organizational personnel, and with subcontractors and vendors, enables all stakeholders to learn and continuously improve their levels of performance. This lays the foundation for building strong relationships among stakeholders.

Inputs

Prerequisites

Defined roles and responsibilities guide the definition of suitable knowledge sharing mechanisms. (Org_Over_2)

Review meetings are a means for sharing knowledge. (Org_Over_4)

A participatory culture enables personnel to share knowledge. (Ppl_Over_8)

Knowledge sharing procedures should comply with security and confidentiality policies and requirements. (Org_Over_11, Tech_Over_2, Ops_Over_6)

Enhancers

None

Outputs

Dependent Practices

Sharing knowledge supports innovation and entrepreneurship. (Ppl_Over_11)

Knowledge sharing aids in addressing service-related queries from personnel. (KM_Over_9)

Associated Practices

None

Activities for the Organization

1. Describe the intent of implementing procedures for knowledge sharing among stakeholders, and identify expected results.
2. Personnel policies encourage contribution to, and sharing of, knowledge about the organization's services.
3. Define and document the steps to be taken in knowledge sharing. Concurrently, indicate the work products to be generated at each step.
4. Identify and provide the required resources, including methods and tools, for knowledge sharing.
5. Identify and establish incentives for knowledge sharing among clients, subcontractors, and vendors.
6. Identify and establish mechanisms for knowledge sharing among stakeholders.
7. Ensure that the established mechanisms enable sharing of knowledge for defined roles, as appropriate.
8. Track and record the actions that are initiated as a result of knowledge sharing.
9. Recognize improvements made as a result of knowledge sharing.

Supplementary Information on Activities

Activity 2. Personnel directives that encourage contributing and sharing knowledge may include defining procedures for conducting periodic knowledge sharing meetings, publicizing incentives for knowledge sharing, and recognition of beneficial outcomes arising out of knowledge shared.

Activity 6. Mechanisms to share knowledge include meetings, queriable databases, contract kick-off meetings, contract completion meetings, company intranets, bulletin boards, client meetings, and conferences and seminars.

Attributes to Measure

Effectiveness of procedure

Example Measures

- Frequency of knowledge sharing activities across organizational levels and with stakeholders
- Average participation level (attendance) in knowledge sharing activities

Benefits derived from knowledge sharing

Example Measures

- Percentage reduction in response-time to meet client requirements
- Percentage reduction in time or effort taken to design and deploy a service
- Percentage reduction in time or effort taken to deliver services
- Percentage improvement in client satisfaction

Define mechanisms to address the queries that personnel may have on service-related issues.

Rationale: An organization needs to establish mechanisms to effectively address queries raised by personnel during service design, deployment, and delivery, in order to continuously enhance the levels of service provided. Service-related queries also act as indicators for improvements to the service-related and support activities.

Inputs

Prerequisites

Client and end-user knowledge aid in resolving service-related queries. (Org_Over_9)

Mechanisms for addressing queries need to adhere to security and confidentiality policies. (Org_Over_11, Ops_Over_6)

Documented client interactions aid in resolving service related queries. (Ops_Over_3)

Service specification, service design, and project plan aid in resolving service design and deployment related queries. (Ops_Exe_2, Ops_Exe_3, Ops_Exe_5)

Service delivery plan and process specification aid in resolving service delivery related queries. (Ops_Exe_7, Ops_Exe_14)

Knowledge gained from previous client engagements is useful for resolving queries. (KM_Over_6)

Enhancers

None

Outputs

Dependent Practices

None

Activities for the Organization

1. Identify, train, and authorize the personnel who are responsible for addressing and resolving queries.
2. Develop mechanisms to track and resolve queries raised by personnel, based on queries raised and resolutions provided in the past.
3. Train personnel in query-handling mechanisms.
4. Document the response to, and resolution of, personnel queries, and make them available for future use.
5. Define steps to escalate irresolvable queries to higher levels of management and/or to the client.
6. Analyze queries raised in order to be able to identify where improvements are needed in the information which is available to personnel for carrying out their roles. Use findings from analysis to identify modifications required in the organizational procedures.

Supplementary Information on Activities

Activity 1. Personnel may be selected to address queries based on their specific expertise, such as, experience in the organization, roles, and level. Selected personnel may be allocated to personnel teams based on type of project, client, and service vertical.

Activity 2. Expert databases or bulletin boards may be used as mechanisms to resolve service-related queries. Mechanisms for addressing queries may be made available over corporate intranet or the Internet, as appropriate.

Activity 3. Training in query-handling mechanisms includes how to raise queries and how to follow up for resolution.

Associated Practices

Mechanisms for resolving service-related queries improve the effectiveness of the work environment. (Ppl_Over_6)

Personnel queries are a means of obtaining feedback for organizational improvement. (Ppl_Over_10)

Information made available to personnel can be improved based on the queries raised and resolutions provided. (KM_Over_5)

Attributes to Measure

Effectiveness of mechanisms

Example Measures

- Average number of service-related queries raised by personnel
- Percentage of queries resolved within acceptable time frames
- Percentage of queries escalated or unresolved
- Percentage of personnel using defined query-resolution mechanisms

Capture and organize client requirements in a knowledge base.

Rationale: An organization uses knowledge captured from previous client engagements to improve its approach to requirements elicitation. This helps reduce turnaround time and improves the quality of response.

Inputs

<u>Prerequisites</u>
Captured client requirements are organized in the knowledge base. (Ops_Pre_1)

<u>Enhancers</u>
None

Outputs

<u>Dependent Practices</u>
Client requirements are a key component of client and end-user related knowledge. (Org_Over_9)

Client requirements provide a basis for aggregating and analyzing capability baselines. (KM_Over_2)

<u>Associated Practices</u>
Feasibility reviews and responses to client requirements are improved by using captured and organized client requirements. (Ops_Pre_5, Ops_Pre_6)

Development of service specifications is improved by captured and organized client requirements. (Ops_Exe_2)

Captured and organized client requirements improve the ability to design, deploy, and deliver services. (Ops_Exe_5, Ops_Exe_14)

Activities for the Organization

1. Identify a team to interact with the client and to record client requirements.
2. Establish mechanisms to capture client requirements.
3. Capture client requirements in specified templates, along with the organization's responses, and update the knowledge base.
4. Ensure that the requirements stored in the knowledge base are easily retrievable.
5. Designate team members to update client requirements during service design and delivery.
6. Ensure that client interaction teams and service design, deployment, and delivery teams have access to the knowledge base on client requirements.

Supplementary Information on Activities

Activity 1. Client requirements include client-supplied specifications for service, technology, policies to be followed, and resources required. Client requirements to be captured would also include implied requirements captured during interactions with clients, such as negotiations, training, and design and delivery of services.

Attributes to Measure

Usefulness of requirements information

Example Measures

- Number of unique client requirements and organization responses captured
- Number of instances of use of knowledge base in responding to client requirements and service design
- Average time taken to search and retrieve a specific client requirement

Benefits of requirements database

Example Measures

- Reduction in time taken to respond to client requirements and service design

Establish and implement procedures for collection, validation, and dissemination of market information about prospective clients.

Rationale: An organization's ability to understand and respond to a client's requirements depends on its expertise in the market and service segment. Knowledge of market information helps an organization to prepare and position its capabilities to suit a client's requirements.

Inputs

Prerequisites

None

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

Market knowledge aids client interaction teams in understanding client needs and in positioning the organization's capabilities. (Ppl_Pre_1)

Market information on prospective clients improves negotiation and pricing of services. (Ppl_Pre_2, Org_Pre_2)

Market information improves the responses to prospective client requirements. (Ops_Pre_6)

Activities for the Organization

1. Describe the intent of implementing procedures to collect, validate, and disseminate information on prospective clients, and identify expected results.
2. Identify prospective clients.
3. Define and document the steps to be taken in collecting, validating and disseminating information on prospective clients. Concurrently, indicate the work products to be generated at each step.
4. Identify current and future requirements of prospective clients.
5. Identify and provide the resources that are required to collect, validate, and disseminate information on prospective clients.
6. Identify the personnel involved and define their roles and responsibilities. Train the personnel in the collection and validation of market information.
7. Capture and update information about prospective clients.
8. Ensure that the designated team uses this information to plan their approach to the identified market and prospective clients.
9. Analyze this information in order to prepare and position organizational capabilities for future client requirements.

Supplementary Information on Activities

Activity 3. Market information on prospective clients includes their market share in the industry of operation, client's customers, client's existing service providers, client's competitors, and industry information.

Activity 9. Improvements can be in the form of introducing a separate training module on sector-specific characteristics, developing a customized approach for a sector or group of clients, and adding inputs for a proposal in response to the client.

Attributes to Measure

Quality of market related Information

Example Measures

- Frequency of updating of market information
- Number of activities carried out to capture information on service segment or market sector

Effectiveness of knowledge dissemination

Example Measures

- Frequency of information-sharing activities

Benefits derived from use of market knowledge

Example Measures

- Number of organization-initiated service customizations
- Number of new client acquisitions
- Percentage reduction in client complaints and clarifications
- Percentage reduction in response time
- Improvement in client or end user rating on organization's quality of response

Capture innovative approaches in service design and deployment.

Rationale: Capturing information on innovative approaches and making it available for service design and deployment activities enables an organization to improve and innovate its approach to future contracts.

Inputs

Prerequisites

Support innovation by personnel. (Ppl_Over_11)

Procedures for knowledge sharing enable information on innovative approaches to be made available to personnel. (KM_Over_8)

Enhancers

None

Outputs

Dependent Practices

Opportunities for improvement can be identified from information on innovative approaches. (Org_Over_5)

Associated Practices

None

Activities for the Organization

1. Formulate guidelines for capturing innovative approaches in service design and deployment.
2. Include assignment of responsibility and methods for collection of data on innovative approaches in guidelines. Also include methods of access to the captured information.
3. Furnish the tools required to capture data on innovative approaches.
4. Capture information on innovative approaches and make it available in an easily retrievable manner, within restrictions imposed by the client's requirements of security, confidentiality, and protection of intellectual property.
5. Systematically utilize information on innovative approaches in future contracts.

Supplementary Information on Activities

Activity 1. Data on innovative approaches is collected physically (copies of designs, specifications) and/or electronically (intranet, bulletin board).

Activity 2. The data collected include the nature of the contract; personnel involved; the innovation, results of innovative approaches, such as information on effort, or outcome prior to innovation, and results after innovation; and information on clients and end-users. The data may be categorized and made available by type of project, activity in design or deployment, clients, and service segment.

Attributes to Measure

<u>Benefits derived from use of knowledge on innovative approaches</u>

Example Measures

• Number of organization-initiated service customizations
• Number of new client acquisitions
• Percentage reduction in response time
• Improvement in client and end user rating on organization’s quality of response

Capture competencies used and developed during contract execution.

Rationale: Systematic capture of competencies used and developed for a contract enables an organization to plan for their reuse in future contracts. This leads to a reduction in an organization's time to respond to client inquiries and service requests that involve the use of similar competencies.

Activities for the Organization

1. Evaluate personnel for competencies based on their analytical skills, their knowledge, training received by them, and the specific activities they performed.
2. Update the competency inventory.
3. Systematically use the competencies developed to identify personnel for future assignments.
4. Provide designated personnel access to the information on competencies which were developed.

Supplementary Information on Activities

Activity 1. Skills include knowledge of delivering a particular service, performing a particular task, and software applications that personnel have been trained to use or have worked on previously.

Activity 4. 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 recruitment.

Inputs

Prerequisites

The skills inventory is used to capture competencies and skills used and developed in a client engagement. (Ppl_Over_3)

Information on skills transferred to clients provides inputs for identifying skills used in a client engagement. (Ppl_Post_1)

Enhancers

None

Outputs

Dependent Practices

Information on competencies used in client engagements provides inputs for identifying required competencies. (Ppl_Over_1)

Associated Practices

Information on competencies used in previous client engagements improves the process of feasibility review. (Ops_Pre_5)

Information on competencies used in previous client engagements improves responses to prospective client requirements. (Ops_Pre_6)

Information on competencies used in previous client engagements provides inputs for planning service design and deployment. (Ops_Exe_3)

Attributes to Measure

Integrity of skills captured

Example Measures

- Number of errors identified per audit in skills inventory
- Delay in number of days in updating skills inventory after acquiring the skill

KM_Exe_3 Level 2

Establish and implement procedures to capture and analyze data on resources consumed during contract execution.

Rationale: Systematic capture of data on resources consumed enables an organization to understand and control resource utilization. It also provides valuable information to the organization to accurately plan for resources required for new client engagements.

Inputs

Prerequisites

The plan provides information on resources to be utilized in a client engagement. (Ops_Exe_3)

Information on client supplied resources is captured as part of resources consumed in a contract. (Ops_Exe_13)

Enhancers

None

Outputs

Dependent Practices

Information on resources consumed aid in resource planning. (Org_Over_6)

Information on resources consumed aid in measuring employee and team performance. (Ppl_Exe_3)

Information on resources consumed aid in reviewing feasibility and responding to client requirements. (Ops_Pre_5, Ops_Pre_6)

Information on resources consumed are used when measuring performance. (KM_Over_1)

Associated Practices

None

Activities for the Organization

1. Describe the intent of implementing procedures to capture and analyze data on resources consumed, and identify expected results.
2. Define and document the steps to be taken in capturing and analyzing data on resources consumed. Concurrently, indicate the work products to be generated at each step.
3. Formulate and make available guidelines on methods of collecting data on resources consumed during contract execution.
4. Identify and provide the resources required to capture and analyze data on resources consumed during contract execution.
5. Identify the personnel participating and define their roles and responsibilities. Train the personnel identified and authorize them to capture and analyze data on resources consumed.
6. Capture information related to the effort and time frame of the activities carried out for each client engagement.
7. Furnish the tools required to capture and analyze data on resources consumed.
8. Aggregate and analyze the data captured. Make available the results of analysis to personnel, as appropriate.
9. Identify inefficient resource utilization by comparing actual against planned utilization in service design, deployment, and delivery.
10. Document instances of inefficient utilization of resources and track them to closure.
11. Systematically reuse the information on resource consumption for estimation of future engagements.

Supplementary Information on Activities

Activity 1. The results the organization can expect from implementing this procedure include methods to utilize resources effectively and methods to estimate the resources required for future contracts.

Activity 6. Information related to effort and time includes number of personnel used, duration of activity, and technology used (computers, storage devices, media, software). Where appropriate, the information on effort and time is translated into monetary terms.

Attributes to Measure

<u>Integrity of resource utilization information captured</u>

Example Measures

- Number of instances of variation in resources estimated compared to resources actually consumed
- Frequency of updating resource information

<u>Usefulness of resource utilization information</u>

Example Measures

- Frequency of use for planning and estimation

KM_Post_1 Level 4

Establish and implement procedures to transfer to the client, during reverse transition, the knowledge gained from the specific client engagement.

Rationale: Transferring the knowledge gained from the client engagement back to the client during reverse transition aids in a smooth transition by enabling the client to understand the service characteristics, and to make effective use of the service. This also aids in reducing the learning cycle for the client, if the client needs to outsource the same service again, and establishes a basis for future relationships with the client.

Inputs

Prerequisites

The contract should specify the knowledge required to be transferred to the client. (Org_Pre_3)

Knowledge transfer takes place during handover of service. (Ops_Post_1)

Knowledge gained from client engagement is transferred during reverse transition. (KM_Over_6)

Enhancers

None

Outputs

Dependent Practices

None

Associated Practices

None

Activities for the Organization

1. Describe the purpose of implementing procedures for knowledge transfer to the client, and identify expected results.
2. Define and document the steps to be taken in knowledge transfer. Concurrently, indicate the work products to be generated at each step.
3. Identify the knowledge gained during the specific client engagement that enables the organization to provide service at an acceptable service level.
4. Define both the components of knowledge to be transferred, and the knowledge transfer activities, in the client agreement, as appropriate.
5. Ensure that the identified components of the knowledge do not represent the organization's intellectual property. Ensure that the knowledge will aid in reducing the learning cycle for the client, if the client needs to outsource the same service again.
6. Identify and provide the resources required for preparing and transferring knowledge to the client.
7. Designate and authorize personnel to approve the transfer of knowledge to the client.
8. Transfer the identified knowledge to the client according to the steps defined, and obtain necessary approvals from the client, as defined in the contract.
9. Document the information on the knowledge transferred and the relevant client acceptances obtained.

Supplementary Information on Activities

Activity 2. The steps involved in transferring knowledge include identifying the components of the knowledge to be transferred, obtaining the necessary approvals and clearances, creating monitoring mechanisms which ensure a smooth transfer and provide methods to handle disputes, defining escalation methods, and the actual plan and transfer of the knowledge.

Activity 3. The knowledge gained can include various components such as client requirements, client or end-user related knowledge gained during the client engagement, identified key issues 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 personal competencies needed for a specific contract, corrective and preventive actions that include client involvement, and a summary of client feedback.

Activity 5. The intellectual property of the service provider that forms a part of the knowledge gained include reusable service components and work products developed; innovative approaches undertaken; and different plans made for achieving cultural fit, meeting security and confidentiality requirements, risk management, and resource management.

Activity 7. Personnel such as the project manager, production manager, or vice president should approve identified knowledge for transfer to ensure that it satisfies contract requirements and does not include any intellectual property of the organization.

Attributes to Measure

Effectiveness of the transition of knowledge

Example Measures

- Number of client complaints on knowledge transferred