

# Project Planning

Project Integration & Project Planning : integrated plan that addresses all required elements, used to manage all project resources and to control cost, schedule and performance to requirements as well as integration of scope, schedule, cost, quality, risk and contract changes, resulting in appropriate project plan changes.

- **Project Scope Management** : defines and controls the work to be done in the project, to ensure that it is understood by all stakeholders, the PM assigned and positioned appropriately with all stakeholders, the Statement of Work is defined and agreed upon, the Work Breakdown Structure covers the entire scope of work, there is traceability from the contract through all applicable project plans, the Statement of Work been formally documented and accepted, the change control process has been defined and followed, the PM has a current copy of the contract, and the contract is in place before the start of project work
- **Project Time Management** : estimating and ensuring timely completion of project work, by ensuring that the WBS contain appropriate detail and full definition of all activities, all activity dependencies and sequencing are identified in the plan, time estimates based upon the activities in the WBS, duration estimates based upon sound methods or experience, the schedule reflects activity sequence, duration & resource availability, the current critical path can be defined, all change requests are analyzed against schedule impact
- **Project Cost Management** : estimating & ensuring completion of project work within budget, all resource requirements are defined for all activities in the WBS (people, equipment & materials), the costs of each resource are known, complete costs are allocated to each activity in the WBS, the cost baseline is established and reflects the proposal and presale planning, cost estimates are kept current and reflect change control, the project uses integrated schedule and cost management (Earned Value), the PM can provide an Estimate at Completion
- **Project Quality Management** : focus on the quality policies, objectives and responsibilities, ensuring that Quality management plan is current and relevant to the project, all project team members understand how to satisfy the quality policies, the project includes a means to evaluate overall performance on a regular basis, test and acceptance procedures for project deliverables are identified and followed, all deliverables are tested before delivery to the customer
- **Project Human Resource Management** : processes to make the best use of all project stakeholders, overseeing that all roles and responsibilities are understood and documented in an OBS, a Responsibility Assignment Matrix links all tasks to the resources, all project staff is assigned and committed by both inside and outside organizations, all team members receive appropriate training and development, project performance / recognition is linked to the team's performance appraisals
- **Project Communications Management** : includes the processes to ensure sharing of information among all project stakeholders and to see that there is a procedure for communicating with the customer, and a procedure for all communications with all other stakeholders, and that the PM Information System is adequate for timely sharing of information, there is adequate project status, progress and forecast reporting, formal acceptance and documentation of milestone completion, and a means to archive project documentation & share lessons learned
- **Project Risk Management** : to identify, analyze and respond to positive and negative risk

events, to oversee whether sources of risk are identified as part of pre- and post-sale project planning, risks are evaluated, prioritized, examined for interaction, and whether the risk management plan outlines opportunities, contingencies, risk reserve, mitigation strategies for key risk events, and to ensure that the proposal, contract, project plans reflect appropriate mitigation, and that the Risk Management Plan is executed and kept current

- **Project Procurement Management** : to ensure that project planning includes an analysis of what to procure, when and why, that formal requirements are defined and potential sources are identified, that the subcontracting is consistent with the opportunity and risk assessment, that the subcontract is aligned properly with the contract with the customer, that there is a process to obtain quotes or proposals from multiple suppliers, that there is a formal evaluation process used to select suppliers, that the subcontract adequately specifies SOW, cost/schedule control, change and quality management procedures, that the PM (or a designate) manages the relationship with the suppliers, that formal acceptance criteria are defined and used to manage suppliers
- **External Process Support** : to know when and how was the PM engaged for the project, whether the PM was involved in account planning and presale planning, whether there is an effective risk assessment and Bid/No Bid process for the project, whether the PM was involved in cost estimating and pricing of the opportunity, whether there is an effective process for identifying and obtaining project resources, whether the PM has accountability for all goods and services in this project?, whether the organization and project metrics are consistent, the PM obtain project performance information from the organization, whether the project reporting is adequate to communicate status to the management, whether the PM manages customer billing
- **Technical Solution Management** : to oversee that there is an adequate functional description of the project deliverables, that formal requirements documents been reviewed and approved with the customer, that formal specification documents been reviewed and approved with the customer, that all applicable design documents (functional decomposition, detailed design, etc.) been reviewed and approved, that there is an appropriate development / deployment process in place, that there is a configuration management process in place, linked to the overall project change control process, that the product quality assurance is linked to the overall project quality management system, and that the deliverables have been independently reviewed
- **Tools and Infrastructure** : to ensure the effectiveness and efficiency of tools and systems, and that the tools used internal to the project (the Project Management Information System) are effective, and that there are effective tools for time tracking and reporting back to the PM, and that time is tracked according to project plan cost accounts, and that there are effective tools for cost tracking and reporting actuals back to the PM, and that there are effective tools for schedule plan and tracking, and that there is an effective tool for managing customer billing as a function of the contract and plan, and that there are adequate systems for resource management
- **External Organizational Support** : focus on how the surrounding organizations support this project, and whether the PM is assigned to project this at the appropriate time and with the appropriate authority, and whether the PM gets the required support for administrative and financial functions, and whether the PM gets adequate support for project start-up, risk assessment and audit functions, and whether the PM have appropriate interfaces into the organizations providing resource to this project, and whether the PM is properly positioned with the Sales team

Develop the Responsibility Matrix as follows:

1. Map all available elements of the WBS into the matrix.
2. Analyze each WBS element to determine which roles apply. Identify the role responsible for the element, as well as all those providing support.
3. For each WBS element, identify by name (or by organization if an individual is not assigned) the team members and their roles with respect to the WBS element.
4. After all WBS elements are analyzed, review the matrix for unidentified resources and roles.
5. Repeat Steps 1 through 4 for each level of detail added to the WBS down to the work package level.
6. Review and update the matrix with the Project Team members and the management of all organizations providing project resources.
7. Obtain resource commitments from appropriate functional organizations for the identified resources and roles. Use the Staffing Plan or Document of Understanding to secure agreement on specific deliverables and schedule. Add the resource identification to the matrix, and to your project plan.

There are several tools appropriate for developing the Responsibility Matrix. For example, MS Word or Excel may be used to construct a table, and the tasks and resources can be added manually.

Alternatively, the PM may choose to simply use their cost/schedule control tool (ex. MS Project, Primavera, WSDM, etc.). By entering the WBS and resources by task, the PM can generate 'who does what, when' reports which convey the same information as the matrix, and which are tightly coupled with their project WBS and schedule.

## PLANNING PREREQUISITES CHECKLIST

### OPPORTUNITY OVERVIEW

The following indicates the required components of the opportunity overview. Some components may already be provided by another sales opportunity analysis process. The project manager need not duplicate this information but should participate in or at least review the results of any other processes.

- Customer Sales Team Information
- Customer Information
- COMPANY Relative Account Position
- Customer Opportunity Information
- Key Milestone Dates
- Existing Customer Environment
- Sales Opportunity
- Third-Party Product Requirements
- Solution Implementation Rollout Requirements
- Opportunity Issues and Risks

### CUSTOMER REQUIREMENTS

- Customer business requirements
- Customer technical requirements
- Customer schedule requirements
- Customer contractual requirements
- Customer specified Third-party requirements
- Has a Request For Proposal or Request For Quotation been issued? Made available to the Project Manager/Planning Team?

### SCOPE STATEMENT

The Scope Statement should completely but concisely describe the project and, at a minimum, address the following elements:

- Customer identification
- Description of the customer business need
- Overview of the COMPANY approach to meeting the customer business need, including the following:
  - A description of the hardware to be used in the solution
  - A synopsis of the software to be used
  - Identification of any services to be provided as part of the solution
- Discussion of how the COMPANY proposed solution meets the customer business need and how that solution fits in with the overall customer business strategy
- Identification of the COMPANY organizations that will participate in planning for the project
- Identification of the third-party organizations that will participate in planning for this project

Identification of the COMPANY project sponsor or owner

Statement of the time frame in which the project will be implemented

An estimate of total project price or cost

#### PROJECT QUALIFICATION REPORT

Customer Opportunity Overview

COMPANY Sales Revenue Opportunity Estimate

Risk Identification

Preliminary Project Schedule

Estimated COMPANY Cost to Respond (IDENTIFY PLANNING RESOURCE NEEDS)

Summary and Recommendations

The Project Opportunity and Risk Assessment is designed to support the assessment of project viability before committing the resources required to develop a Project Plan and customer proposal. It is to be completed by the sales representative closest to the customer project under evaluation, with the concurrence of the Project Management organization or equivalent.

The model provides a high-level, “first pass” evaluation of the risks associated with a project. It will help the Customer Sales Team and management determine which opportunities to concentrate on and which risks must be managed to ensure project success. It is meant to provide guidance and assistance in making a bid/no bid decision.

Note: If the Customer Sales Team completes this analysis as part of another process, the Project Manager need not duplicate it here. The Project Manager should instead participate in that analysis and ensure all risks are identified for inclusion in the Project Qualification Report (PQR).

### The Process

The process for assessing the opportunity and risk using the Project Opportunity and Risk Assessment involves three basic steps:

**Evaluating the opportunity.** A series of ten questions on Opportunity Analysis are to be answered, with a score for each to be calculated. The questions have been weighted on a scale of 1 (low weight) to 5 (high weight) in terms of their relative importance to each other. This score is calculated by multiplying the raw score (Opportunity Factor (O)) by the pre-established weight value (W). After each question has been scored, a total opportunity score is calculated by adding the individual question scores. The total is then entered in the space provided for the Total Opportunity Analysis Score.10).

**Evaluating the risk.**

A series of eleven questions on Risk Analysis are to be answered, with a score for each to be calculated. The score is calculated by multiplying the raw score (Risk Factor (R)) by the pre-established weight value (W). The total risk score is then calculated and entered in the space provided for the Total Risk Analysis Score.

**Mapping the opportunity and risk scores to the model.**

The total scores for opportunity and risk are plotted on the matrix provided within the model. The location of this score on the matrix helps determine the quality of an opportunity and indicates the level of risk to be managed to ensure project success.

### Timing

The questions provided in this tool can be applied to a project at any time during the sales cycle before issuing a proposal to the customer. However, the complete process is intended to be used primarily when the project requirements are defined with such detail that the customer could issue a request for proposal (RFP) or similar instrument. The process may be especially helpful when evaluating an unsolicited RFP. The model has been designed to be completed by a Core Team within a few hours.

### Interpreting the Results

After the scores have been mapped on the model’s matrix, the Customer Sales Team and the Project Manager or equivalent can determine the next appropriate step. Normally, a meeting with management is held to review the opportunity.

This meeting should include management representation from each organization that would perform a detailed assessment, develop a Project Plan, and provide input to the customer proposal. These same organizations will ultimately be responsible for project execution if the bid is won.

If the project assessment is unfavorable, the Customer Sales Team, in conjunction with the Project Manager or equivalent, may search for ways to improve the opportunity and/or reduce the risk before presenting the opportunity to management. Alternatively, the Customer Sales Team, with concurrence from the Project Manager or equivalent (and management as appropriate), may conclude the opportunity should be declined.

Use the following outline to prepare a comprehensive Risk Management Plan:

## 1.0 PROJECT SCOPE

Insert the Scope Statement, or provide a brief summary of the project, including a description of the work to be accomplished, a description of the customer's goals and objectives for the project, a general description of how the project will be accomplished, and other pertinent information that will provide a good overview of the project.

## 2.0 RISK EVENT DESCRIPTIONS AND EVENTS

Determine the business and financial risks of the project, and, for each element of the WBS, identify any major risks involved in that element. Complete Risk Event Description and Risk Event Results. Reference or include a copy of the WBS in this section. The process is carried out as follows:

### 2.1 Identify Risks.

Identify business and financial risks associated with the project. For each element of the WBS, identify any major risks associated with that element. For more information on risk identification, refer to the guide Risk Management. Complete a Risk Event Description form for each risk event identified, or use another method of documentation.

### 2.2 Analyze Risks and Calculate the Weighted Cost Impact.

In analyzing the risks, make the assumption that the risk event identified will occur. Think in terms of the remedial activity that will need to take place to rectify the occurrence of the risk event. Using the same guidelines used in calculating the cost of the WBS elements, calculate the rectification cost (impact) without any form of "padding" or risk adjustment. Analyze the risk event and apply a weighting to the impact on a scale of 1 through 5 as follows:

Weight 1: Has little potential to cause disruption of schedule, costs, or performance (quality). Increase the impact by 5 percent.

Weight 2: May cause minor disruption of schedule, costs, or performance (quality). Increase the impact by 10 percent.

Weight 3: May cause some disruption of schedule, costs, or performance (quality). Increase the impact by 15 percent.

Weight 4: May cause major disruption of schedule, costs, or performance (quality). Increase the impact by 20 percent.

Weight 5: Could cause significant serious disruption of schedule, costs, or performance (quality). Increase impact by 25 percent.

Finally, estimate the probability of the event occurring as a percentage (between 0.01 and 0.99), and calculate the weighted cost impact as follows:

$(\text{Cost Impact} + \text{Cost Impact Increase}) \times \text{Probability of Occurrence} = \text{Weighted Cost Impact}$

Example: For a risk event with an estimated cost impact of \$2,750, a weight of 4, and probability of occurrence at 85 percent:

$$(\$2,750 + \$550) \times 0.85 = \$2,805$$

2.3 Identify High-Risk Events. If a specific risk event has greater than 75 percent probability and/or the

weighted cost impact is greater than 10 percent of the total project cost, the risk event is by definition a high-risk event. For each high-risk event, create a separate and unique WBS element that identifies the work required and the weighted cost impact required to rectify the occurrence of the high-risk event. This WBS element must be flagged as a high-risk event element as distinct from a normal WBS element.

2.4 Develop Mitigation Strategies. Determine potential strategies for mitigating the risk—either avoiding it, controlling it, or transferring it to another party. Assuming the risk consequences is also a potential mitigation strategy, but it is the least desirable. Evaluate the potential cost impact of the mitigation strategy and reflect that impact in the risk budget.

2.5 Establish the Risk Budget. Each high-risk event will become a line item in the risk budget. The other risk events should be accumulated and used to establish the managerial reserve. An amount for contingency, or those events and circumstances not anticipated in any way, should be calculated based on experience. These amounts together become the risk budget portion of the Project Budget. The risk budget should be margined at the same rate as the Project Budget to establish the budget at selling price. This then is presented to the customer in the proposal as the project price.

### 3.0 RISK REASSESSMENT PLAN

Identify the major reassessment points for this project, and ensure that those reassessment points are identified in the Project Plan. At minimum, high-risk events should be reassessed at the following times:

- Whenever major changes occur in the project or its environment
- Before major decision milestones
- Periodically, according to a predetermined schedule

### 4.0 RISK MANAGEMENT TIMETABLE

Indicate the timetable for risk management activities. Ensure that the key events are also reflected on the Project Schedule. Major milestones include the following:

- Completion of risk identification and analysis
- Risk prioritization
- Completion of mitigation strategy development
- Incorporation into Project Plan and WBS
- Key reassessment points
- Documentation of risk results

## SUBCONTRACT MANAGEMENT PLAN

Use the following outline to prepare a comprehensive Subcontracting Plan.

### 1.0 OVERVIEW

The Subcontracting Plan explains the overall project approach to using third-party suppliers on the project. Third-party suppliers may provide hardware, perform services, or develop and provide software used in the system. COMPANY responsibility for supplier management is to ensure that all subcontracted elements are fully integrated into the overall system and that they are managed integrally throughout the project.

Explain the project approach to using subcontractors, and generally describe which project elements will be performed by third-party suppliers. Describe generally the process of managing those suppliers.

### 2.0 PROJECT ELEMENTS TO BE SUBCONTRACTED

Use the WBS to identify which WBS elements will be subcontracted. Describe why those elements will be performed by subcontractors and why COMPANY cannot or should not do the work internally. For each element, discuss the specific requirements for the subcontractor. Provide a schedule showing when subcontracts will be awarded for each element.

### 3.0 IDENTIFICATION AND SELECTION OF SUBCONTRACTORS

Discuss the process by which subcontractors will be selected. If subcontractors will be competitively selected, identify which COMPANY organizations will be responsible for preparing statements of work and other requirements documentation. Typically, they will be the organizations that have responsibility (shown in the Responsibility Matrix) for the WBS elements being subcontracted.

For each WBS element to be subcontracted, identify the third-party supplier that will perform the work. If that supplier is already known, there is usually no need for a formal procurement procedure.

### 4.0 SUBCONTRACT MANAGEMENT

4.1 Discuss the overall process for managing the subcontracts. What COMPANY organizations will provide legal and contracting support? Who will be responsible for administering subcontract changes and modifications? Who will review progress and approve payment of supplier invoices?

4.2 As each subcontract is awarded, establish a Subcontract Tracking Summary in a file for that subcontract. Use the summary to record the progress of the subcontract throughout its life.

4.3 Assign a Project Team member or organization the responsibility for managing each subcontract. Identify the responsible parties in this section of the Subcontracting Plan, as well as on each Subcontract Tracking Summary.

### 5.0 SUPPLIER PARTICIPATION IN PROJECT MANAGEMENT

Discuss the level of supplier participation in the project management process. Some suppliers may be responsible for major portions of the project. If this is the case, there should be a representative from those suppliers on the Project Steering Committee to facilitate project control and communication. Discuss supplier input to the project management information system. Discuss the level of reporting required from suppliers, and ensure that the input and reports are listed as contractual requirements in the subcontracts.

## CUSTOMER RELATIONS PLAN OUTLINE

Use the following outline to prepare a comprehensive Customer Relations Plan.

### 1.0 PROJECT SCOPE

In this section, insert the project Scope Statement, or provide a brief summary of the project, including a description of work to be accomplished, the customer's goals and objectives for the project, a high-level description of how goals will be met, and other pertinent information.

### 2.0 CUSTOMER ACTIVITY PHASES

The customer activity phases should build upon each other. Particular attention should be paid to the transition points between phases, when responsibility for primary project contact changes.

**2.1 Precontract Phase.** Immediately after the decision is made to proceed with a proposal to close on the sales opportunity, the Project Manager and the Solution Sales Specialist (or Services Sales consultant) draft an initial Customer Relations Plan covering precontract planning, postcontract planning, implementation, and life cycle management (LCM).

Identify a member of the Project Team, ideally the Project Manager, to develop and track progress against the building of a sound, mutually beneficial customer/supplier relationship to support the project. This responsibility should be shared by an appropriate member of the Customer Sales Team.

Insert names and contact information for identified Project Team and Customer Sales Team representatives.

**2.2 Postcontract Phase.** Major contact activities include conducting a customer kickoff meeting and finalizing the baseline Project Plan.

Insert description of responsibilities and procedures for customer contact during this phase. Include frequency of formal meetings, process for calling ad hoc meetings, and guidelines and contacts for casual interactions.

Insert contact information for major customer contacts during this phase.

**2.3 Implementation Phase.** Insert description of responsibilities and procedures for customer contact during this phase. Major contact activities include managing changes to the project, preparing and installing customer sites, training customer personnel, and performing customer testing and acceptance procedures. Include frequency of formal meetings, process for calling ad hoc meetings, and guidelines and contacts for casual interactions.

Insert contact information for major customer contacts during this phase.

**2.4 Close-Out Phase.** Insert description of responsibilities and procedures for customer contact during Close-Out. Major contact activities include transitioning, satisfaction review, follow-up, and monitoring of process development

**2.5 Life Cycle Management.** Insert description of responsibilities and procedures for customer contact during LCM. Every aspect of LCM is centered around customer contact, so this phase presents the greatest opportunity for nurturing customer satisfaction and building long-term relations. Include frequency of formal meetings, process for calling ad hoc meetings, and guidelines and contacts for casual interactions.

Insert contact information for major customer contacts during this phase.

### 3.0 SCHEDULE

Insert major milestones and target dates for formal customer contact throughout the project.

## **project executive ingredients**

Here is an overview of the numerous areas that the Project Executive should keep in mind at all times.

Acceptance – Activity Modeling – Analyze Locations, Users, Presentation, Processes and Data – Application Development Projects Guide – Actual Cost of Work Scheduled – Audit Review – Authority to Proceed – Baseline – Budgeted Cost of Work Scheduled – Build Outline Implementation Plan – Build Technology and Database Independent Applications – Business Case – Business Needs – Business Policy and Procedures – Change Management – Choice of Functionality – Class Definitions and Class Specifications – Class Diagrams – Client/Server – Close-out phase – Common User Access – Concept phase – Conducting a User Documentation Inspection – Configuration Management – Consolidation Workshop Protocol – Contingency and Risk – Contract Administration – Contract Management – Contract Guide – Core Team – Corporate Strategy and Product Portfolio – Cost Breakdown Structure – Cost Performance – Current Systems Analysis – Data Flow Diagram – Data Normalization – Defect Tracking – Defining Boundaries – Defining Evaluation Categories – Defining the Content – Defining the Detailed Scope – Definition – Design Infrastructure Architecture – Designing Classes – Designing Data – Designing Inputs and Outputs – Designing Tasks – Detailing the Work Breakdown Structure – Determining Category Weights – Determining Potential Vendors and Products – Develop Infrastructure Specifications – Developing Business Specifications – Developing Initial Vendor Questionnaire Materials – Developing Materials for Detailed Evaluation – Developing Software Modification Analysis – Developing the Package Evaluation Summary – Developing the Task Flow Diagram – Developing the Vendor Solicitation Document – Developing User Documentation Objectives – Developing Vendor Reference Questionnaire Materials – Disaster Plan – Documentation Usability Testing – Earned Value – Economical Value – Encapsulation and Information Hiding – Encapsulation Overview – Entity Modeling – Entity-Relationship Diagram – Error and Fault Management – Establish Background – Establish Implementation Requirements – Estimating Conversion Projects – Estimating Projects – Euro Checklist for Insurance Companies – Evaluating Solutions – Evaluating Package – Evaluating Vendor Bids – Exceptions Management Guide – Fast Track – Financial Management – Fixed Price Contract – Functional Requirements – Fundamental Business Process Modeling – Gantt Chart – Identifying Relationships between Classes – Implementation Approach – Implementation phase – Inspect Infrastructure Specifications – Integration Plan – Intellectual Property Guide – Interview Tips – Interviewing Vendor Reference Users – Inventory Management – Issue Management – IT Impact Analysis – Lessons Learned – Life Cycle – ISO – Logistics Checklist – Matrix Analysis – Messages and Methods – Method Descriptions – Model-View-Controller – Module Decomposition Method – Module Specification – Object Diagrams – Objects and Classes – Operational Test – Organization and People Management – Organization Breakdown Structure – Organizational Impact – Overrun – PERT/CPM – Physical Database Design – Planning and Estimating – Polymorphism – Portfolio Management – Postcontact planning phase – Precedence Diagram Method – Precontact planning phase – Preparing for Definition – Preparing for Designing the Business System – Problem Management – Process Modeling – Process Verification – Program Management – Progress Reviewing – Progress Tracking – Project Completion – Project Control Book – Project Definition – Project Endorsement – Project Identification – Project Office – Project Planning and Scoping – Project Startup – Project Transfer – Proposal Projects – Prototyping – Purchase Orders – Qualifying Vendors – Quality and Conformance – Quality Control and Testing – Quality Management – Questions for Decision Support Systems – Questions for Technical Criteria – Questions for Vendor Criteria – Questions for Workstation Criteria – Reconcile Process Views – Refine Infrastructure

Configurations – Resource Management – Responsibility Assignment Matrix – Request for Proposal – Request for Quotation – Return on Investment – Reuse – Reviews – Risk Management – Scheduled Variance – Scoping and Estimating – Safety Plan – Select Infrastructure Components – Sign-Off procedure – Sizing Guideline – Software Plan – Spiral Model – Splitting Fundamental Business Processes – Standard Processes – Startup – State-Transition Diagrams – Statement of Work – Structured Design – Structured Diagrams – Structured Programming – Structuring Phases – Subcontracting Plan – Subdividing Large-Scale Development Projects – Summarizing the Package Evaluations – Supplier Management – System Test – Task Analysis – Task sequence – Team Building – Technical Design – Technical Requirements – Test Case Development – Test plan – Transaction Analysis – Transform Analysis – Transforming Diagrams – Transition Plan – Trends – Triggers – Underrun – Unit Test – Using the Specimen Contract Appendices – Variance – Walk through Major Processes – Work Breakdown Structure – Work Packages – Workflow Business Process Modeling

So, before someone calls himself a Project Manager or a Program Manager, be aware that all of the above should be second nature.

