Project Management Best Practices for the Application Development Process

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Overview

This paper establishes the essential components for the Requirements Definition and subsequently each Phase within an Application Development project process. This includes the primary steps involved in each Phase, and the necessary “packets” of information that need to be developed and passed from one Phase to the next.

These necessary components, including a high-level summarization checklist of activities, are intended to be depict the guiding, final verification, and sign-off needed to proceed to the next step in the Application Development project process cycle. In essence, the components of each Phase and packet are deliverables that are part of, or needed at, the end of each Phase.
The following Flowchart depicts the Requirements Definition process that should be done prior to, and as part of the Application Development project process cycle:

**Requirements Definition with Project Management Methods Flowchart**

1. Determine Project Need
2. Identify Business End Users and Stakeholders
3. Detail Business Requirements
4. Approval
5. Detail Project Requirements
6. Approval
7. Define Work (WBS)
8. Estimate Effort, Time, Cost, Risk
9. Develop Budget and Schedule
10. Mgt/Exec Committee Approval
11. Develop Vendor Management Plan
12. Develop Quality Management Plan
13. Develop Risk Management Plan
Phase 1: Visioning and Business Planning

The purpose of this Phase is to identify the business requirement/need for the potential project. The outcome of this Phase is approving the initial project plan that includes but is not limited to the following activities and deliverables that define:

- Business need
- Stakeholders
- Scope
- Goals
- Critical success factors
- Expected outcomes
- Needs assessment
- Costs

The packet of information that must be completed during and/or by the end of Phase 1 includes but is not limited to the following:

1) Initial Project Plan – in the form of a Work Breakdown Structure (WBS)
2) Phase Approval and Signoff – for Technical Team and Business Team
3) Project Vision Statement – A high level document to be presented to a Management and/or Executive Committee
4) Initial CBA – a high level description of the benefits and costs for the project
5) Phase Signoff Checklist – a document that contains a verification checklist signoff for stakeholders, customers, application development group, business end users for each deliverable in this Phase and the verification and approval to move to the next Phase.

Phase 2: Analysis and Design

The purpose of this Phase is that the business end users drive the analysis and design in concert with the Application Development project team. The detailed business processes that will be impacted are determined. The outcomes of this Phase are:

- Commitment from the business units and departments that they will provide to the best of their ability the priority and resources to the development of the business and integration systems in their departments to accept and distribute information from/to the integrated system
- Commitment from the business units and departments responsible for the post implementation systems operations and support with drafts of service level agreements (SLA's)
- Approval of the business and technical plan that includes but is not limited to the following activities and deliverables that define:
  - Business models
  - Data models
  - Prototypes
  - Costs
  - Schedule
  - Estimated milestones
  - Expected results

The packet of information that must be completed during and/or by the end of Phase 2 includes but is not limited to the following:
1) More Detailed Project Plan – a follow-on to the Work Breakdown Structure (WBS) that contains more detailed tasks, durations, resources, and expertise levels
2) JAD Decision Document
3) Updated Business and Data Models
4) Business Unit Interface Specification
5) Initial ITSM SLA plan
6) Phase Approval and Signoff – for Technical Team and Business Team
7) More Detailed CBA – a follow-on to the high level CBA that provides a greater description of the benefits and costs for the Application Development project with qualifications and quantifications for each
8) Phase Signoff Checklist – a document that contains a verification checklist signoff for stakeholders, customers, application development group, business end users for each deliverable in this Phase and the verification and approval to move to the next Phase.

**Phase 3: Application Development and Testing**

The purpose of this Phase is that the Application Development project team will develop and test the system. The outcomes of this Phase are the demonstration of the application in the test environment and review of test results and the approval to proceed with Operational Testing and Implementation step.
The packet of information that must be completed during and/or by the end of Phase 3 that includes but is not limited to the following activities and deliverables that defines:

1) A Test Project Plan – that contains detailed development and testing tasks, durations, resources, and expertise levels
2) Test Results
3) More detailed IT Service Management plan that includes Service Level, Incident/Problem, Change, Configuration, Release, Service Continuity, and Performance Management
4) Step Approval and Signoff – for Technical Team and Business Team
5) Finalized CBA – a detailed level CBA that provides an in-depth description of the benefits and costs for the Application Development project with qualifications and quantifications for each
6) Phase Signoff Checklist – a document that contains a verification checklist signoff for stakeholders, customers, application development group, business end users for each deliverable in this Phase and the verification and approval to move to the next Phase.

**Phase 4: Operational Testing and Implementation**

The purpose of this Phase is the system to be deployed is moved to the operational environment for final business end user acceptance testing before implementation for operational use. The outcomes of this Phase are the review and approval of the operational environment test results, Approval to implement, and Implementation.

The packet of information that must be completed during and/or by the end of Phase 4 includes but is not limited to the following activities and deliverables that defines:

1) An Implementation Project Plan – that contains detailed implementation, deployment, and possible recovery tasks, durations, resources, and expertise levels
2) Disaster Recovery Test Results
3) Further detailed IT Service Management plan that includes Availability, Capacity, and Financial Management, and Service Desk
4) Step Approval and Signoff – for Technical Team and Business Team
5) Phase Signoff Checklist – a document that contains a verification checklist signoff for stakeholders, customers, application development group, business end users for each deliverable in this Phase and the verification and approval to move to the next Phase.
Phase 5: Post Implementation Operations and Support

The infrastructure for this step is defined and approved in the Analysis and Design step. Once the system is deployed to operational use the SLA’s are put in place and the IT Service Management procedures for Change, Release, and Incident/Problem, and Service Continuity management take effect.

The packet of information that must be completed during and/or by the end of Phase 5 includes but is not limited to the following activities and deliverables that defines:

1) A template set of Project Plans – that contains generic templates for detailed analysis and design tasks, development and testing tasks, implementation and deployment tasks, durations, resources, and expertise levels
2) A Disaster Recovery plan
3) A full IT Service Management Service Delivery and Service Support methods and best practices
4) Final Project Approval and Signoff – for Technical Team and Business Team. This is presented to a Management or Executive Committee
5) Final Step and Project Signoff Checklist – a document that contains a verification checklist signoff for stakeholders, customers, application development group, business end users for each deliverable in this Phase and the verification and the approval for all steps.
Application Development Project Process Activities

**PHASE 1: Visioning and Planning**
- Draft Initial Scope and Vision
- Mgt/Exec Vision Session

**PHASE 2: Analysis and Design**
- Develop Draft CBA
- Develop Initial WBS
- Budget and Staff Estimates
- Draft Project Plan
- Develop Business Model
- Develop Data Model
- Define Requirement Specification
- Develop Prototype
- Define Technical and Business Interfaces
- Determine IT Service Level Requirement
- Develop Analysis and Design Rept

**Techn/Bus Team Review and SignOff**

**Tech/Bus Team Review**

**Tech/Bus Team Approval**

**Go to Phase 3: Development and Testing**

Project Phases with Project Management Methods Flowchart.
From Phase 2: Analysis and Design

**PHASE 3: Development and Testing**

- Establish Technical Infrastructure
- Develop Integrated Design
- Technical Infrastructure Install
- Design and Develop Applications
- Unit Test
- Unit Test and Evaluation
- Unit Test Approval and Cutover
- Yes
- YES

**PHASE 4: Operational Testing and Implementation**

- Integrate to Production Technical Infrastructure
- Operational Test and Evaluation
- Operational Approval and Cutover
- YES
- NO
- YES
- Tech/Bus Team Review and SignOff
- YES

**PHASE 5: ITSM Post-Implementation Support Processes**

- Change Management
- Incident/Problem Management
- Release Level Management
- Service Continuity

**Project Management Tasks**

- Project Plan Overview
- Financial Management and Budget
- Team and Skill Set
- Detailed Project Plan (Schedule, Resources, Milestones)
- Risk Plan
- Tech/Bus Team Review and SignOff

**Additional ITSM Support Processes**

- Configuration Management
- Performance/Capacity Management
- Service (Help) Desk