Project Management Methodology

Project Lifecycle

The project lifecycle is pivotal concept in understanding projects and tracking their progress from beginning to end. It is used for defining, justifying, building, and delivering solutions.

The project lifecycle outlined here is a methodology that combines traditional waterfall and iterative processes. This approach enables you to tailor the methodology to the needs of the project - small or large, simple or complex. The project lifecycle consists of:
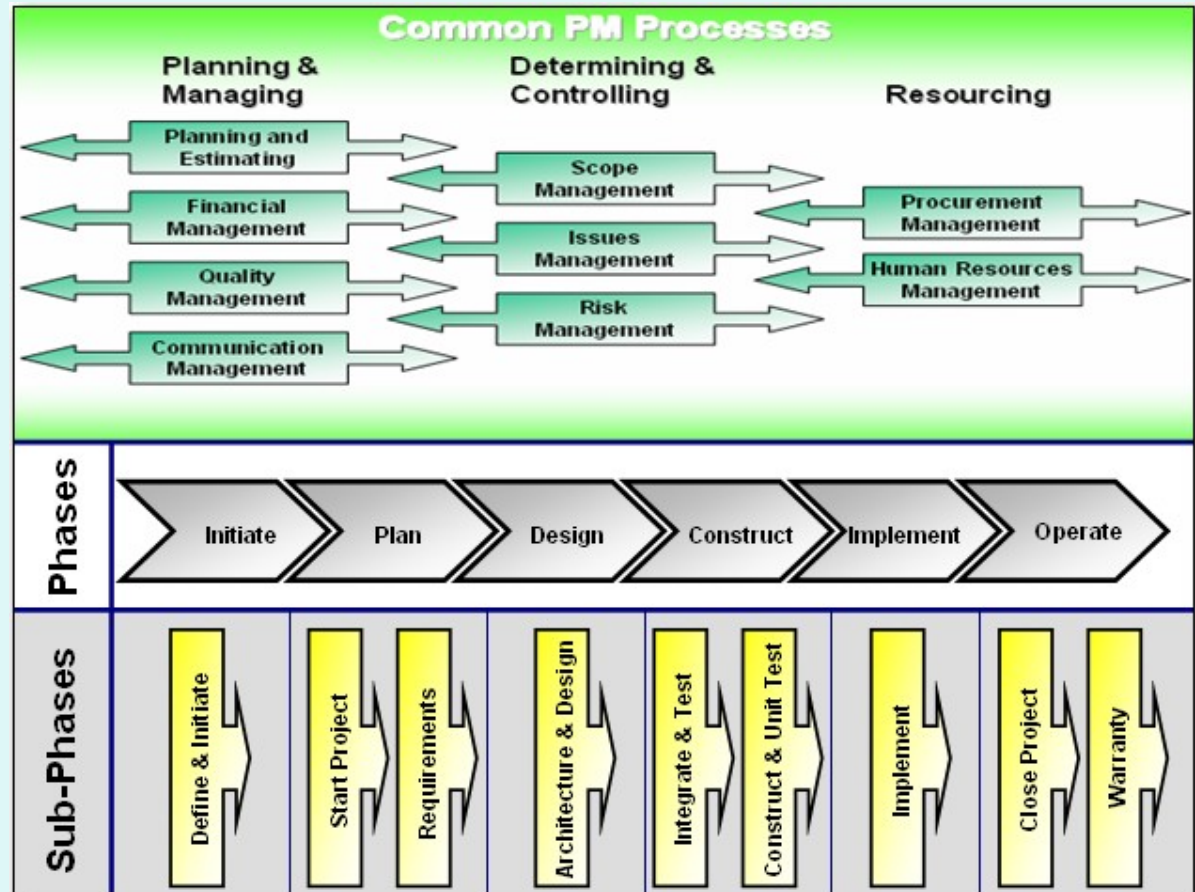
◆ Common project management processes

◆ Project phases

The lifecycle components breakout as follows:

◆ *Nine Common Project Management Processes (PM Deliverables)*

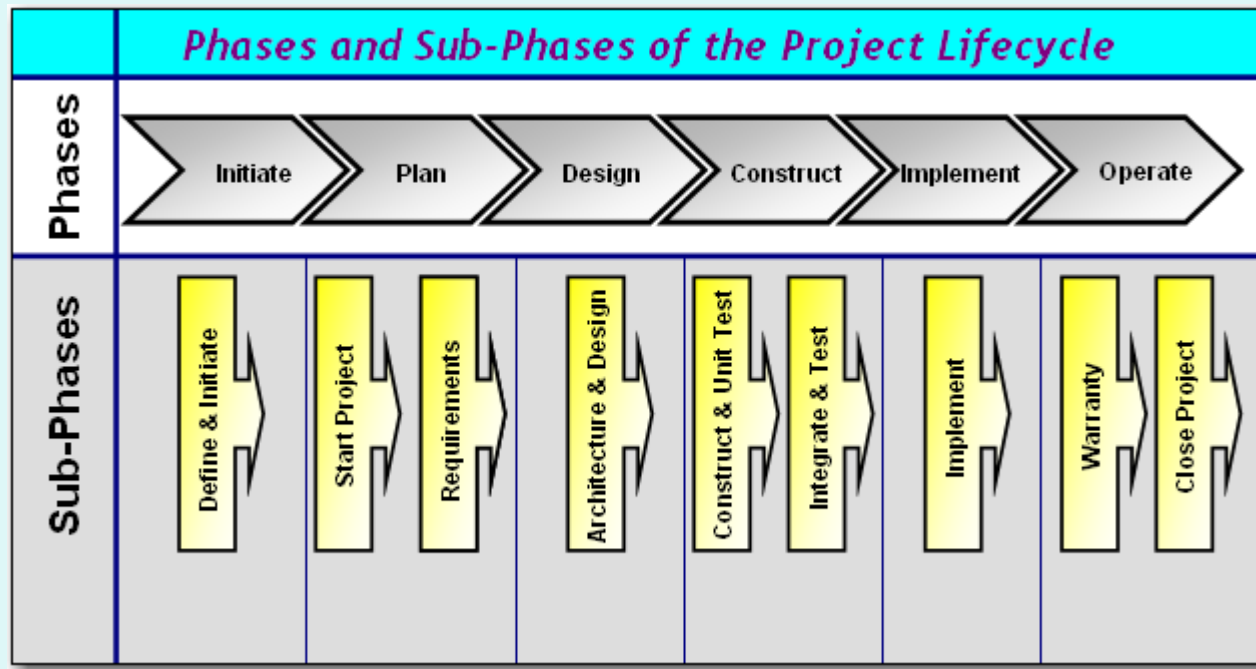◆ *Six Project Phases, broken out into Subphases, defining Project Processes (Project Deliverables)*

The project Lifecycle has six successive phases that are further divided into nine sub-phases….

Phases and Sub-Phases of the Project Lifecycle

Phases

| Initiate | Plan | Design | Construct | Implement | Operate |

Sub-Phases

| Define & Initiate | Start Project | Requirements | Architecture & Design | Construct & Unit Test | Integrate & Test | Implement | Warranty | Close Project |

The lifecycle defines the activities, tasks, and deliverables necessary to bring <u>*successful*</u> *projects from concept to operation. These are the Project Deliverables.*

Methodology Standards should incorporate the following:

- ❖ **Well Defined:** *Project phases are clear, each builds upon the previous and completion criteria is defined*
- ❖ **Iterative:** *Based on a cyclic approach to defining/building/delivering the end product*
- ❖ **Repeatable:** *Established, based on experience, and can be characterized as practiced, documented, measured, and able to improve*
- ❖ **Interactive:** *Emphasizes business/IT/user involvement throughout the project*
- ❖ **Delivery Oriented:** *Focuses on specific, tangible, outcomes, and deliverables*
- ❖ **Tailor-able:** *The framework is intended to be customized for each project, by each division to suit the business need, e.g., # of Releases, # of iterations, duration or overlap of project phases/sub-phases, specific deliverables, etc.*
- ❖ **Segment-able:** *Enables and supports segmenting larger projects into smaller manageable activities*
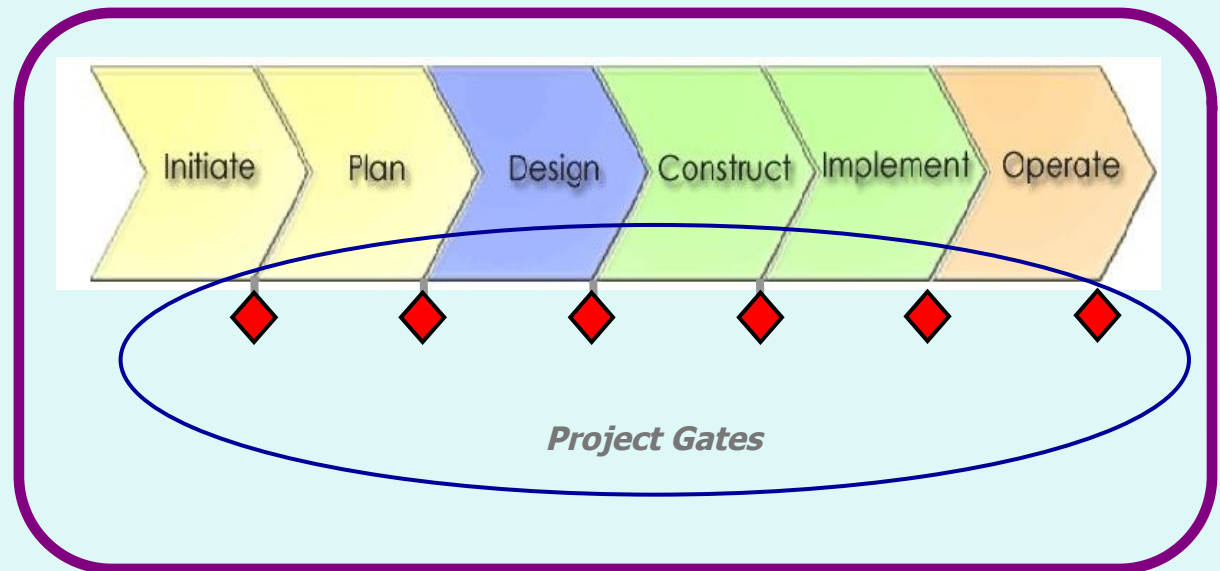
Project Gates are formal decision points that generally align with the end of a phase.

Typically, the Program Management Office monitors projects through established gates. The gate reviews support the need for:
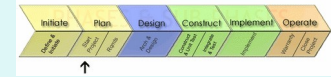
❑ *Project evaluation*

❑ *Realignment with business objectives*

❑ *Decision making*

Initiate | Plan | Design | Construct | Implement | Operate

Project Gates

The Plan phase has a two sub-phases –
   Start Project and Requirements

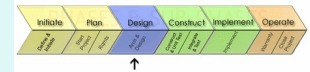❖ **Prerequisite:** *Approval of the business case*
❖ **Summary Description:** *Involves defining and preparing a Project Charter containing a detailed plan; and preparing a complete and consistent set of requirements that will achieve the business objectives*
❖ **Primary Deliverables:** *Project Charter and a Requirements Specification document*

Main deliverables of the Plan Phase are documented and approved.

The Design phase has a single sub-phase – Architecture and Design

❖ **Prerequisite:** Approval of the Project Charter and requirements

❖ **Summary Description:** Involves rigorously defining a complete solution that is based upon the requirements

❖ **Primary Deliverables:** Logical Solution Architecture, Design Specifications, Test Strategies (Plans)
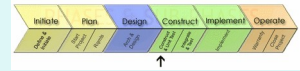
By the end of the Design phase, the project team should have a high degree of confidence that the agreed solution will ultimately deliver the intended business value.

The Construct phase has two sub-phases –
 Construct and Unit Test, and Integrate and Test

- ❖ ***Prerequisite:*** *Completion and Approval of the Design phase*
- ❖ ***Summary Description:*** *Development and integration testing of a "production-quality" solution that is ready to operate in the organizational environment*
- ❖ ***Primary Deliverables:*** *Business Standard OP's, Workforce enablement materials, technology infrastructure, application software, data and databases, system implementation, updated test strategy, test plans/scripts, and test results, and test reports*

The construct phase is complete when all stakeholders verify the solution is ready for production.
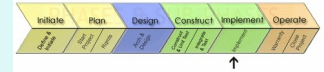
The Implement phase has a single sub-phase - Implementation

❖ **Prerequisite:** *Verification by all stakeholders that the solution is ready for production*

❖ **Summary Description:** *Delivery of the solution to the customer and readying the business for use of the new solution through training, communication, preparing the production environment, and installation and testing of the solution in the production environment*

❖ **Primary Deliverables:** *New solution, retired former solution (if applicable), trained users, and supporting operating guides and materials*

IT solutions, once implemented, must adhere to Change and Release Management (CRM) processes.

The Operate phase has a two sub-phases –
   Warranty and Close

❖ **Prerequisite:** *Successful implementation*
❖ **Summary Description:** *Support and maintenance of the implemented solution, measuring business results against the objectives set out in the Business Case, capturing lessons learned, and placing project artifacts in a repository*
❖ **Primary Deliverables:** *Warranty Acceptance Checklist, Warranty Summary Report, Project Implementation Review Report, Project Closure Report*

The end of this phase marks the completion of a project

The Lifecycle may be customized to meet unique project requirements. An example is iterating phases for incremental application development (stage and release).

Phase Iterations →

Initiate   Plan   Design   Construct   Implement   Operate
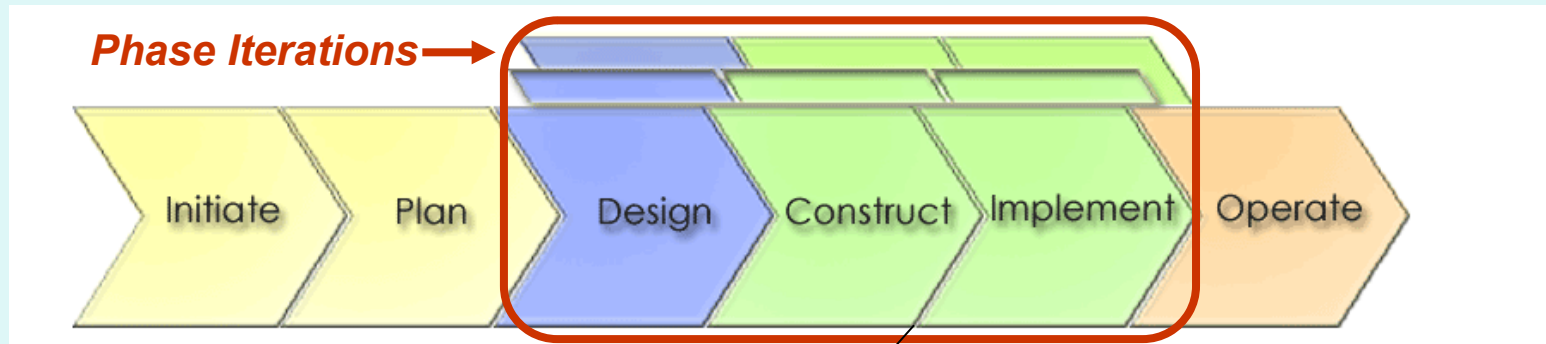
Each of the phases can also be scaled according to the needs of a particular project.

Nine Common Project Management Processes are essential to all projects:

9 PM Processes

* Scope Management
* Planning and Estimating
* Financial Management
* Human Resource Management
* Quality Management

* Communication Management
* Issues Management
* Risk Management
* Procurement Management

Their primary goal is to help keep your project on track. These are the Project Management deliverables.

The Common PM Processes are used throughout the project lifecycle...
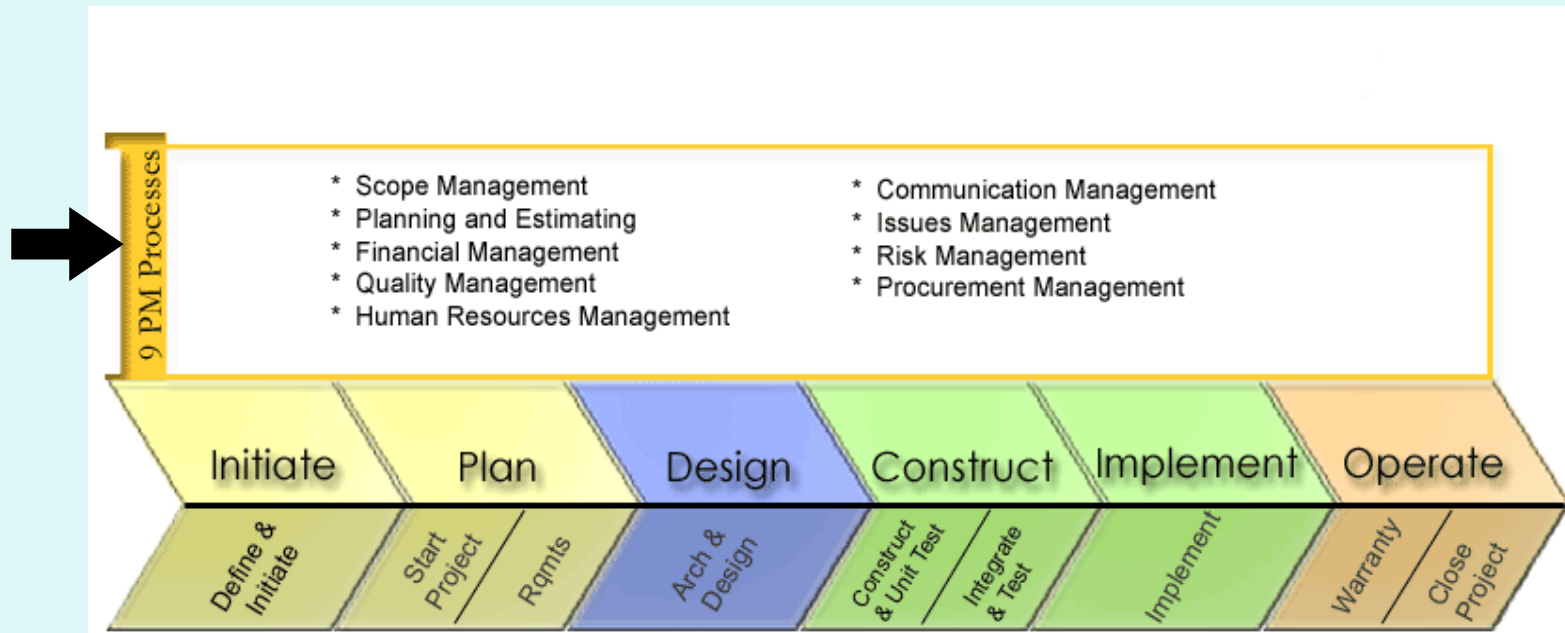
and provide the necessary support for your day-to-day project activities.

Scope Management

❖ **Summary Description:** *Scope Management ensures that the project focuses only on the work required for completing the project successfully, preventing work outside of that scope that contributes to delays and overruns.*

Managing the project scope is the cornerstone for completing a successful project that delivers the specified customer requirements in the time projected.

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Planning & Estimating

❖ **Summary Description:** *Planning and Estimating is the initial development and continual refinement of project work-plans, also known as Work Breakdown Structures (WBS), throughout the project life. At a minimum, the refinement (re-planning) occurs coincident with the end of a phase.*

Most initial project work-plans and resource estimates carry a low level of confidence. After the Design Phase there should be a high level of confidence in the remaining work-plan schedule and resource projections.

Financial Management

❖ **Summary Description:** *Financial Management is a step by step process of resource planning, cost estimating, cost budgeting and cost control. It ensures that funds are available to successfully complete the project, and then tracks and controls the funds to prevent an overrun. As a project moves through the phases of the lifecycle, cost estimates improve in accuracy as details surrounding the project and work plan increase.*

Financial Management is closely tied with Planning and Estimating. Confidence levels in budget estimates will grow as project scope, requirements, and solution design mature.

Quality Management

❖ **Summary Description:** *Quality Management improves the probability of project and solution success by identifying and correcting, or preventing, process or solution quality issues that cause delays, overruns, and inferior solutions. It includes embedding quality checkpoints into the project work-plans.*

Adhering to a rigorous quality plan through-out the project will significantly reduce rework which could lead to higher customer satisfaction and reduced maintenance costs.

Human Resource Management

❖ **Summary Description:** *Human Resource Management matches the right skills, experience, interests, and availability with the project staffing requirements, to ensure quality work is efficiently produced. This includes organizational planning, staff acquisition, and team development and training.*

A key to building a strong project team is to clearly understand the types of jobs and skills needed to successfully execute the project.

Communication Management

❖ **Summary Description:** *Communication Management helps sustain strong Project Sponsorship, stakeholder and project team support and involvement by providing the right information, at the right time, in the right format and delivered by the right person to the appropriate stakeholder.*

Proper communication planning and execution is critical in garnering and maintaining effort and support during the project. It contributes to a smooth implementation of the new system and processes into the operating environment.

Issue Management

❖ **Summary Description:** *The purpose of Issue Management is to proactively identify issues, which if not resolved, will impede the project. The issue management process must establish an effective channel for obtaining decisions and approvals prior to when the project will be impeded.*

The Project Manager should keep the Project Sponsor and Steering Committee informed of any identified issues that pose a significant threat to the project schedule, cost, scope or quality.

Risk Management

❖ **Summary Description:** *The Risk Management process provides a standard approach for controlling risks on a project. It is designed to facilitate the rapid identification, escalation (as needed) and mitigation of risks in order to better promote successful outcomes on projects.*

All areas on the project team should assist in the identification and mitigation planning of project risks.

Procurement Management

❖ **Summary Description:** *The steps in the Procurement Management process include Planning, Solicitation Planning, Solicitation, Source Selections, Contract Administration and Contract Close. Procurement Management includes the process required to acquire goods and services from outside of the enterprise.*

Clearly defining and articulating the projects resource needs is critical in procuring proper resources.

Selection of project team members must be based upon skills needed and personal attributes of the individual. These simple steps can help you build a high performance team...

1) The Project Manager and team leads should **identify the project organization**

2) They should **prepare formal job descriptions** that list the required skills and roles and responsibilities for each position in the project organization

3) The Project Manager, team leads, and divisional PMO work together to **identify and acquire the appropriate resources** - though the PM has the authority to decide which and when resources will join or leave the team

4) **Assure <u>ALL</u> team members have** annual performance objectives aligned to their project responsibilities

A first priority is to staff projects with internal resources before looking to outside sources.

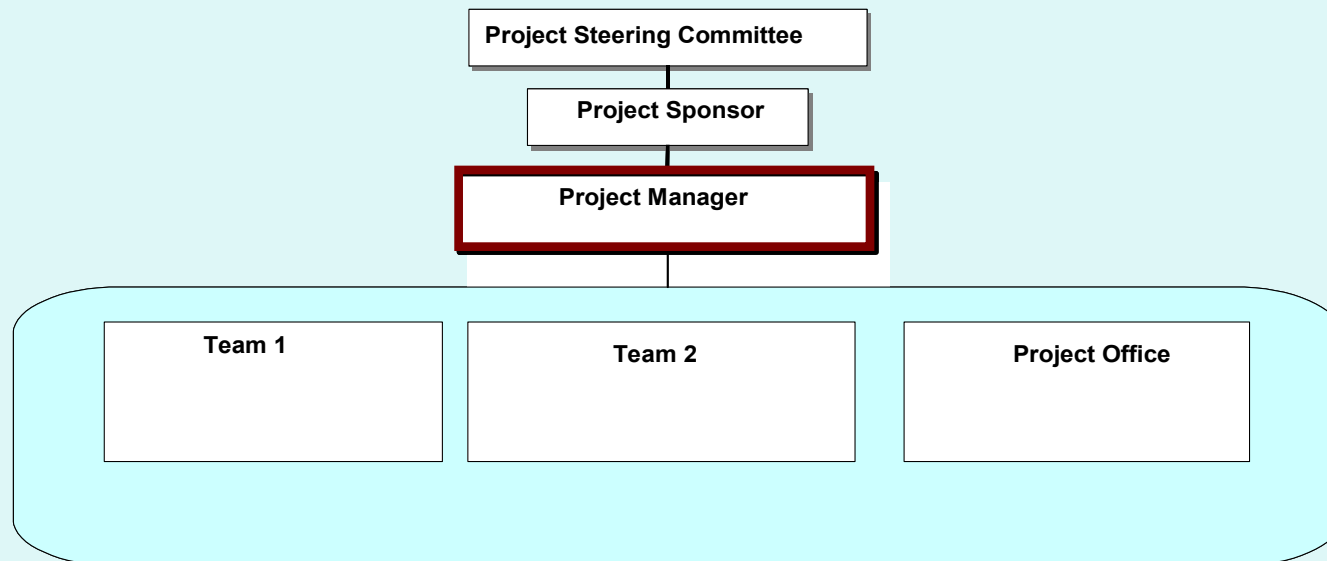*A working project organization must have defined roles and responsibilities, clear accountability, and unambiguous channels of communication.*

Each project must have a <u>single</u> Project Manager who is empowered and accountable for the project.

Project Solutions
Project Organization – Tailored for Each Project

Project organizations can be tailored for each project

Project Steering Committee

Project Sponsor

Project Manager
- Business Case management & project results
- Overall approach & integrated project mgmt
- Financial & resource mgmt
- Scope, quality, schedule, risk, & issue mgmt

Support Areas
- Finance-division, corporate
- Information Protection
- Legal & Public Affairs
- Others as needed (e.g. Marketing)

Legend

Responsibilities for each team
- 🔵 Systems Team Leadership
- 🟡 Business Team Leadership
- 🔴 Subject Matter Expert (SMEs)

Note teams/roles may be combined based on project type/size

Technical & Infrastructure Team 🔵
- Infrastructure design and deployment
- Technical architecture and design
- Deployment & rollout support

Data Design & Integration Team 🔵 🔴
- Data architecture & database design
- Data conversion
- Data & database administration

Implementation Team 🔵 🟡 🔴
- Implementation strategy
- Application cutover schedule
- Interdependencies management
- Phased implementation schedule to support release mgmt

Process & Application Development Team 🔵 🟡 🔴
- Business process definition, update, or confirmation
- Business context & confirmation from Subject Matter Experts (SMEs)
- Requirements definition & management
- Policy & procedure changes
- Application architecture & design
- Program design, construction & unit testing
- Systems documentation
- Testing/fix, support & warranty period

Testing Team 🔵 🔴
- Testing strategy and plan
- Test cases and scripts
- System & integration testing
- Performance volume stress (PVS) testing
- User acceptance testing
- Operational readiness testing (ORT)
- End to end Testing

Project Office 🟡
- Project administration & support
- Reporting & document mgmt

Training & Documentation Team 🟡 🔴
- Training & strategy plan
- Training curriculum
- User documentation & training aids
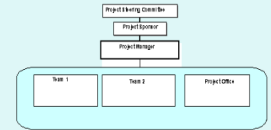- Training delivery & tracking

Organizational Design & Enablement Team 🟡 🔴
- Organizational architecture
- Organizational readiness assessment
- Organizational impact management
- Communications plan & vehicles

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The Steering Committee is a decision making body. It provides SMT (Senior Management Team) oversight and direction for a project.   An effective Steering Committee must...

- ❖ **Create** *an environment in which a project can be successful*
- ❖ **Conduct** *periodic meetings to review project metrics, status, and objectives against plan and provide guidance for future project direction*
- ❖ **Provide** *scope management process oversight for review and approval of changes to project schedule, cost, or performance*
- ❖ **Resolve** *project issues and changes escalated by the project Sponsor*
- ❖ **Provide** *cross-divisional and functional representation and evaluation*
- ❖ **Identify** *operational issues and inter-dependencies*
- ❖ **Build** *consensus and cooperation*

It is often composed of a cross-divisional group, or members of a single division who have unique interests in the project.
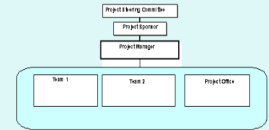
The Project Sponsor / Business Partner is the 'owner' of a project at ...

- ❖ **Initiate** or request projects
- ❖ **Ensure** development of and gain Business Case approval
- ❖ **Approve** the Project Charter, Requirements, and Business Systems Design
- ❖ **Escalate** project issues and changes to the Steering Committee
- ❖ **Approve** deliverables from a business perspective
- ❖ **Participate** in project governance and business issue resolution
- ❖ **Approve** user training and documentation
- ❖ **Approve** user acceptance testing
- ❖ **Participate** in post-implementation review/assessment

The Sponsor is ultimately accountable for project success, and is its advocate, defender, and visible face in the organization.

The Project Manager is accountable to the Project Sponsor. Their primary role is to manage day-to-day project activities including...

❖ **Leading**, **directing**, and **coordinating** activities related to planning, executing, and implementing the project
❖ **Monitoring** project trends, establishing key project metrics
❖ **Reviewing** change requests
❖ **Managing** team and stakeholder relations
❖ **Facilitating** corrective action

A Project Manager also provides status updates to the Project Sponsor, team members, and stakeholders regarding schedule, cost, staffing, and business metrics.

Team leaders are accountable to the Project Manager and have specific skills in a particular business or technical area. They are expected to...

- ❖ **Contribute** their expertise in their area of specializatio;
- ❖ **Recommend** ways to meet project objectives
- ❖ **Assist** with the coordination and scheduling of activities
- ❖ **Prepare** detailed project workplans for their areas
- ❖ **Participate** in problem solving and conflict resolution
- ❖ **Identify** the resources best suited to perform the required tasks
- ❖ **Report** and track metrics for their area and be able to articulate the impact and relationship to the overall project
- ❖ **Produce** and/or manage production of project deliverables
- ❖ **Manage** team to ensure work packages are assigned and deliverables produced

Team Leaders are primary liaisons between the Project Manager, other Team Leads, and their team members

The Project Office is accountable to the Project Manager and provides administrative support for the project

What is the Engagement Model?

- *A framework for ensuring that the right people are engaged at the right time with clear accountability for delivering Systems Community projects and services*

- *The basis for establishing a consistent approach for fulfilling requests for Systems Community services from all divisions*
  - *Problems*
  - *Service Requests*
  - *Projects*

Project Solutions is entirely consistent with 's engagement model which...

❖ **Makes it clear** *who the business should contact for each type of system request*

❖ **Makes it clear***, within the systems community, who to contact for what, by defining roles, responsibilities, and accountability*

❖ **Establishes a consistent** *repeatable process for engaging system services*

❖ **Establishes a standard***, enterprise-wide, approach for engaging the systems community*

The engagement model complements and supports the project organization by defining the primary points of contact for inter-practice team coordination.

Within the context of a project, the Engagement Model relies on five key leadership roles with the following responsibilities:

- ❖ **Project Sponsor (Business Partner)** – *Initiates project requests, approves business deliverables, provides active sponsorship.*

- ❖ **Project Manager (PM)** – *is the ONE Project Manager for the project. Leads, directs and coordinates project activities. Provides status to Project Sponsor.*

- ❖ **Relationship Manager (RM**) – *Primary point of contact for the business, develops Service Level Agreements (SLAs), and ensures authorizations, funding, and engagement personnel are in place. The PM coordinates with the RM when providing project status to Project Sponsor.*

- ❖ **Business System Architect (BSA)** –*Accountable for architectural deliverables. Provides status to PM.*

- ❖ **Technology Services Manager (TSM)** – *Primary point of contact into Systems - accountable for coordination and oversight. Provides status to PM.*

Project Solutions

Project Organization - Engagement Model – Lead Project Manager

➢ *The Lead Project Manager is a new role to many areas of the company*

➢ *The primary responsibility of the Lead PM is management and leadership to achieve the project solution*

➢ *Many existing Project Managers are referred to as Team Leads in this model*

➢ *Individual titles do not change. Rather, roles are described in this model - not job titles - and do not necessarily indicate separate individuals*

Integrating the Engagement Model and Project Solutions

- *How do the Engagement Model and Project Solutions fit together?*

- *What are the changes in terminology and logistics?*

  – *Engagement Model roles and responsibilities*

  – *project structure and roles and responsibilities*

  – *Implications of the changes*

- *How does this affect you?*

Business Sponsor

Lead Project Manager is a defined role overarching IT, Marketing, Sales, etc.

Sales TL

Marketing TL

Finance TL

Lead Project Manager

Business SME

Other TL's

Lead IT PM

Relationship Manager*

Lead IT Project Manager

Business Systems Architect

Application Development Managers

Technology Services Manager

TAP

Application Development

IIS

CIP *TQC* *CSC* *IOS*

IT Processes   IT Process Model
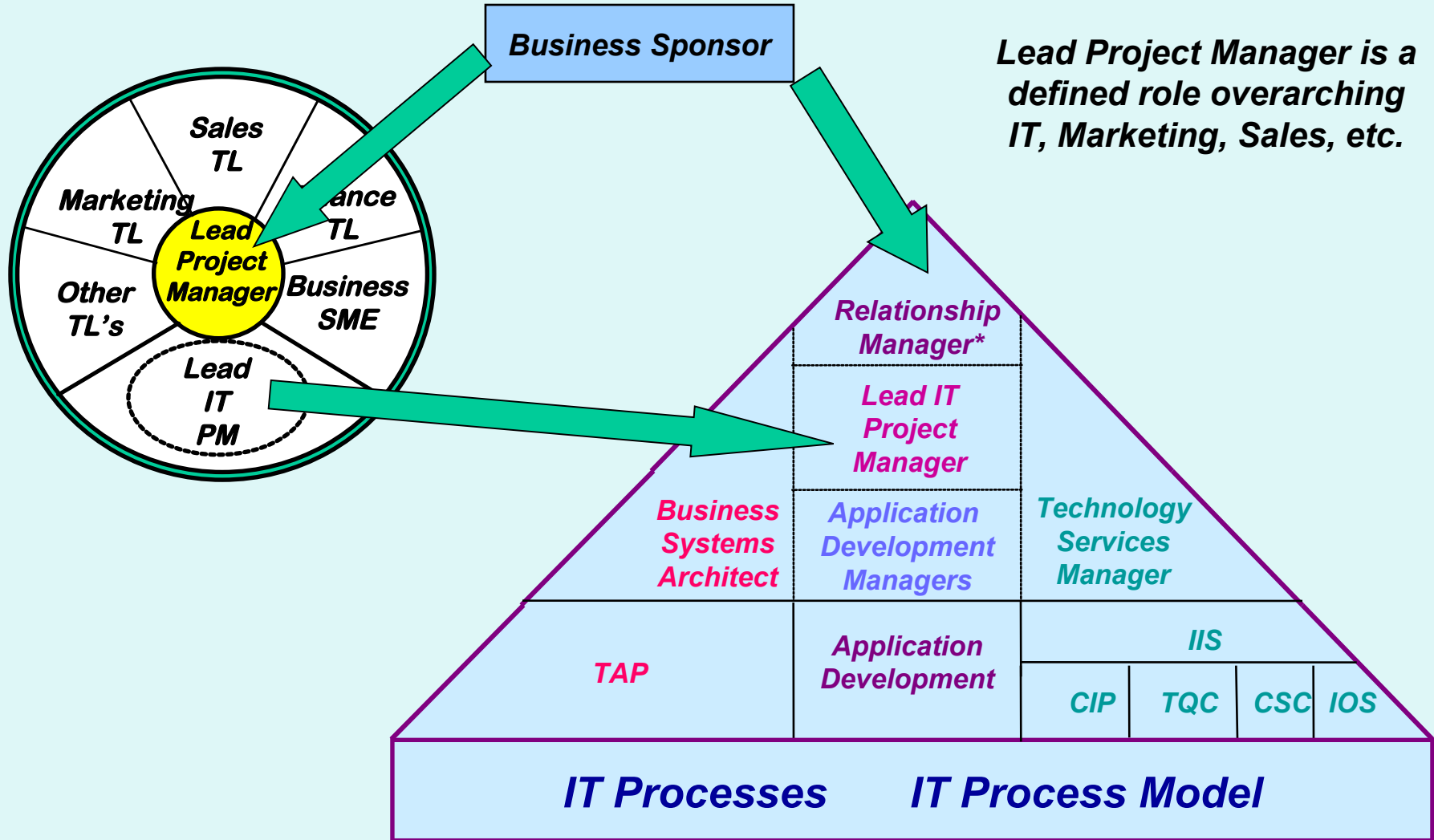
Project Solutions

Role of the Lead PM
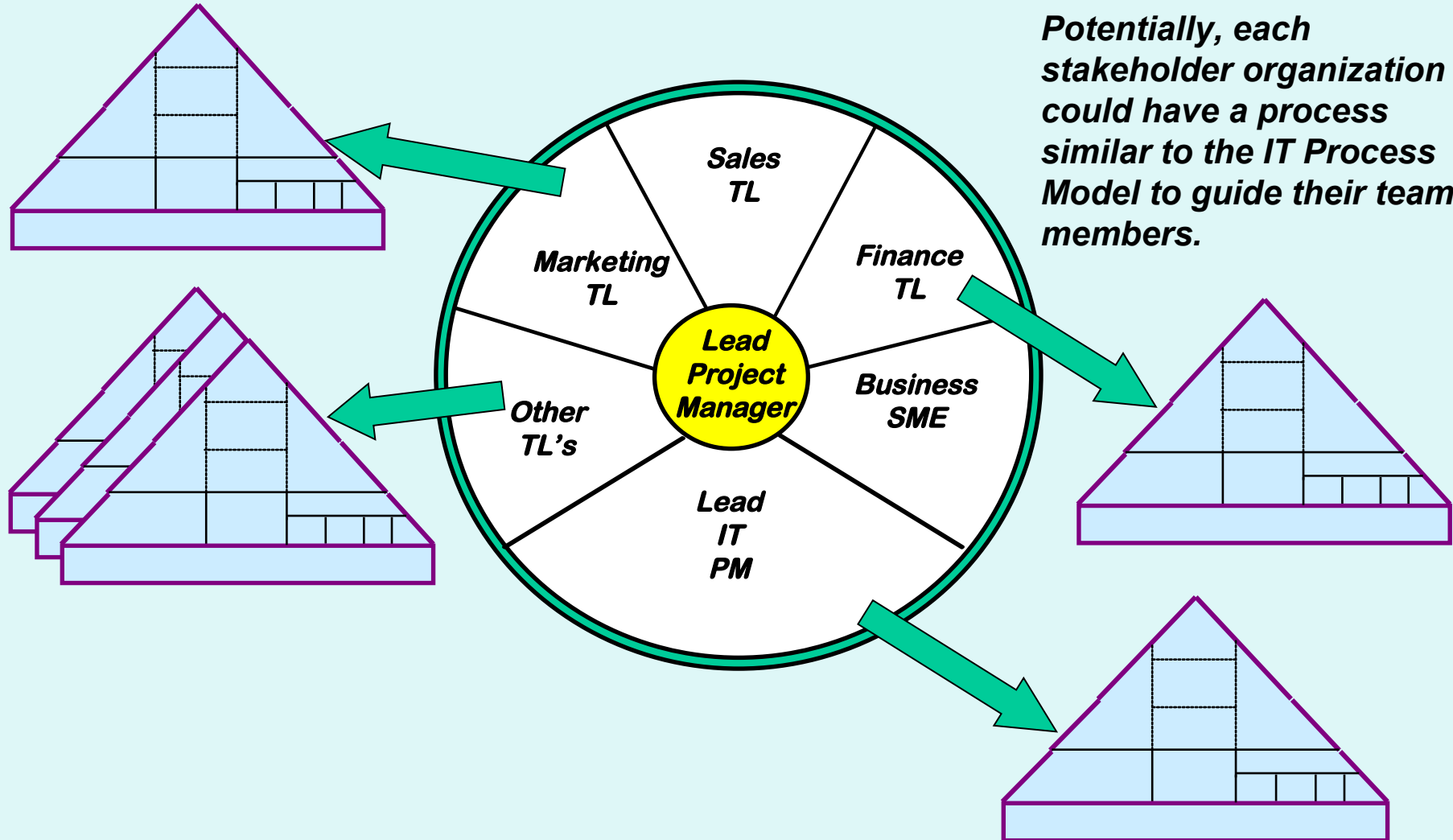
Potentially, each stakeholder organization could have a process similar to the IT Process Model to guide their team members.

Sales TL

Marketing TL

Finance TL

Lead Project Manager

Business SME

Other TL's

Lead IT PM

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Project Solutions
Engagement Model Alignment

Sales TL

Marketing TL

Finance TL

Project Manager

Legal TL

Business SME

Lead IT PM

IPM

(Plan) TAP (BSA)

(Build) IIS (TSM)

(Run) IOS (TSM)

CIP (TSM)

PMP

AMP ECP

LOB Apps
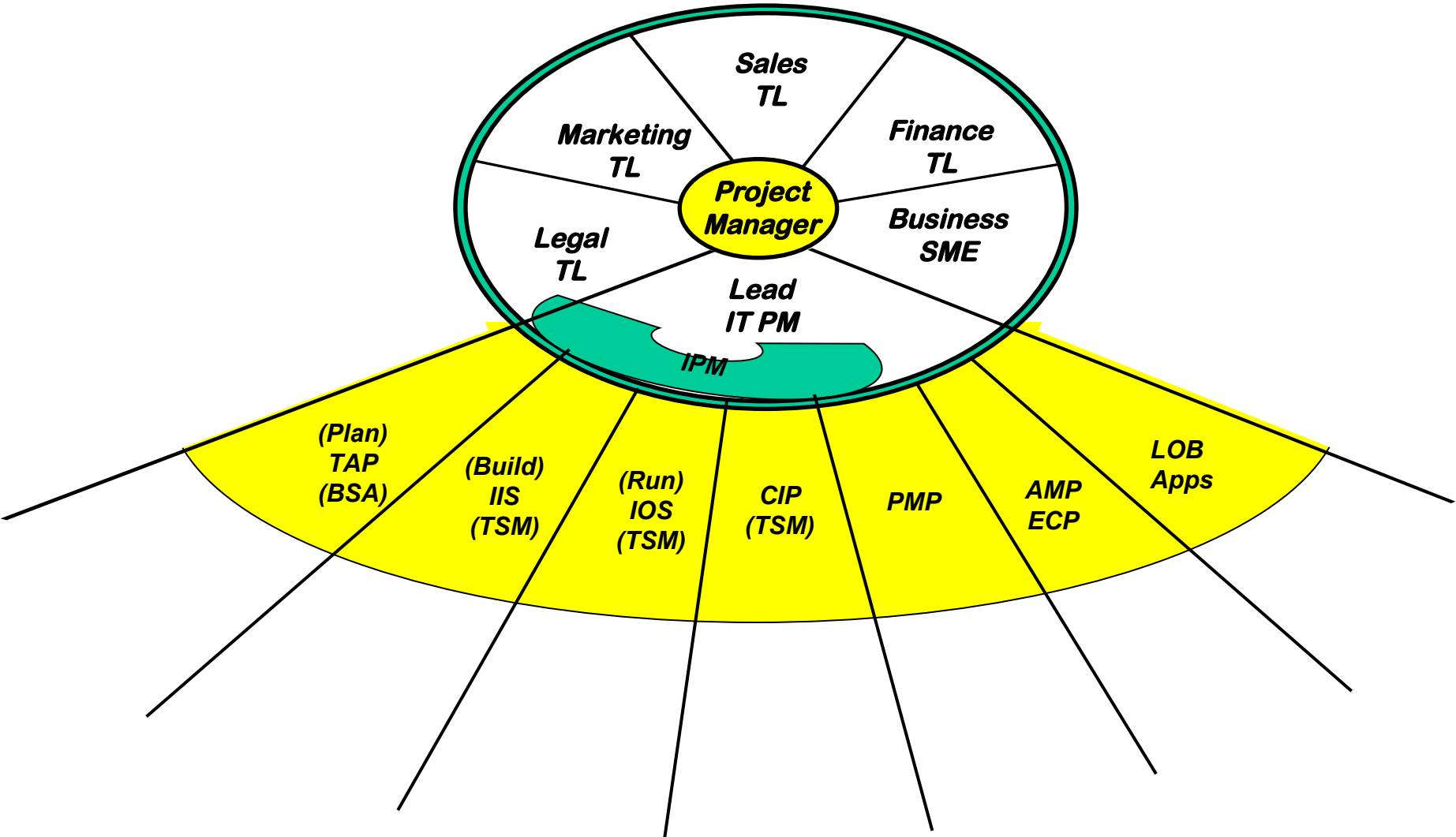
Project Solutions

IT Process Model Alignment

IT Process Model responsibilities are the same.

Central Lead PM aligns all activities on the project.

Sales TL

Marketing TL

Finance TL

Legal TL

Project Manager

Business SME

Lead IT PM

IPM

(Plan) TAP (BSA)

(Build) IIS (TSM)

(Run) IOS (TSM)

CIP (TSM)

PMP

AMP ECP

LOB Apps

Capacity Planning

Enterprise Arch (EAM)

Tech. Design (TDP)

Product Mgt (PDM)

Data Design (DDP)

Predictive Modelling

Foundation Architecture

H/L Design NWork/ H-W/ S-W

Prod Acq & Cert.

Data Models Data Admin

Infrastructure Delivery (IPM)

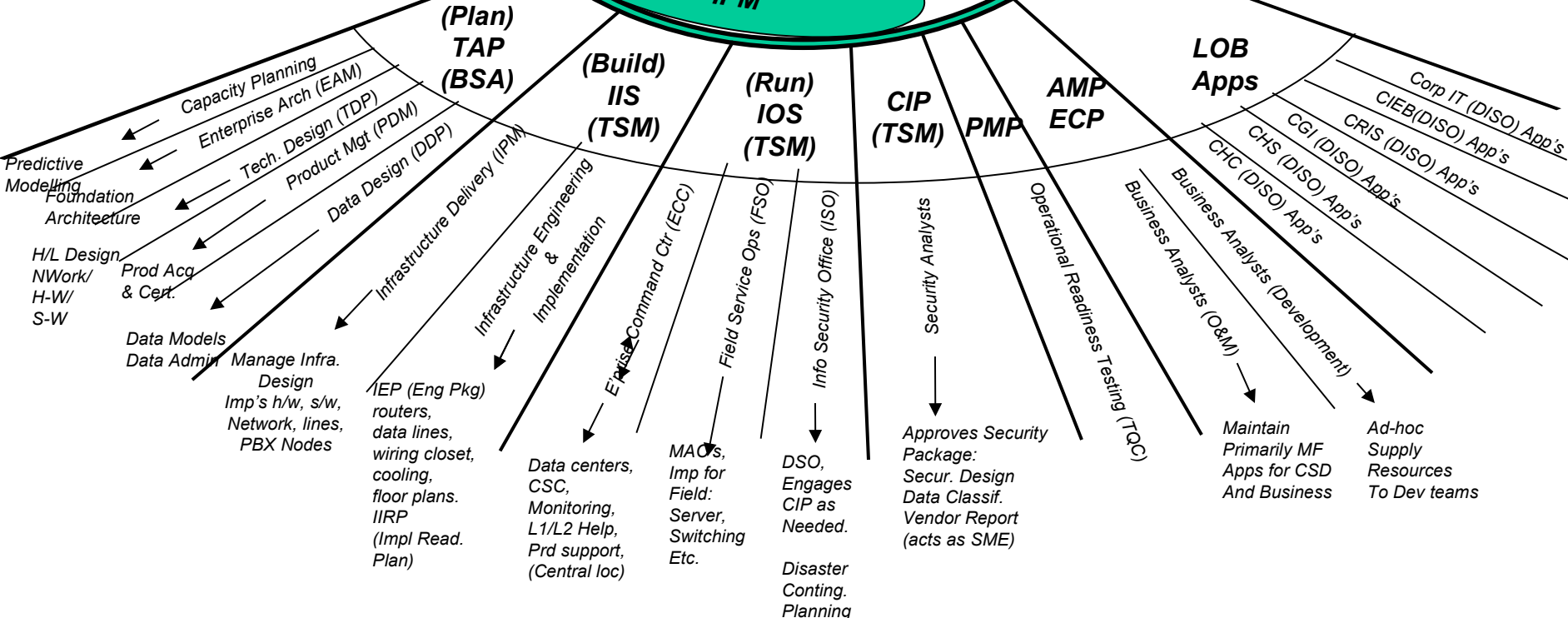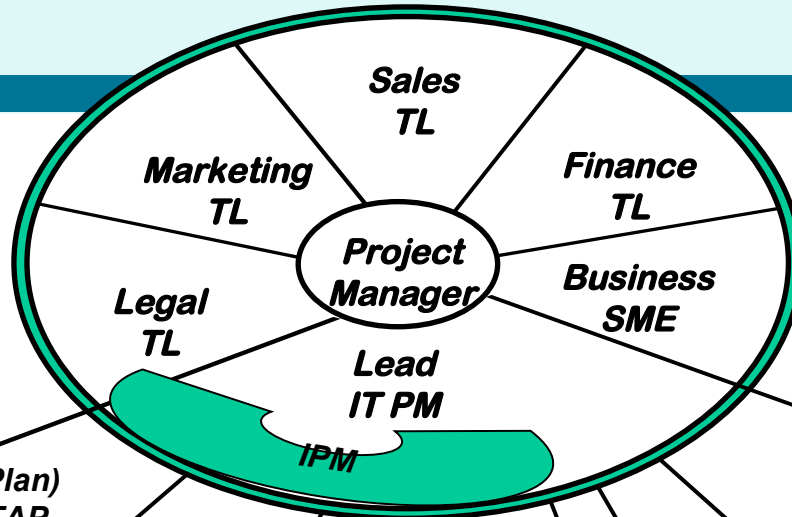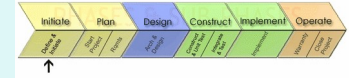Infrastructure Engineering & Implementation

Enterprise Command Ctr (ECC)

Field Service Ops (FSO)

Info Security Office (ISO)

Security Analysts

Operational Readiness Testing (TQC)

Business Analysts (O&M)

Business Analysts (Development)

CHC (DISO) App's

CHS (DISO) App's

CGI (DISO) App's

CRIS (DISO) App's

CIEB(DISO) App's

Corp IT (DISO) App's

Manage Infra. Design Imp's h/w, s/w, Network, lines, PBX Nodes

IEP (Eng Pkg) routers, data lines, wiring closet, cooling, floor plans. IIRP (Impl Read. Plan)

Data centers, CSC, Monitoring, L1/L2 Help, Prd support, (Central loc)

MAC's, Imp for Field: Server, Switching Etc.

DSO, Engages CIP as Needed.

Disaster Conting. Planning

Approves Security Package: Secur. Design Data Classif. Vendor Report (acts as SME)

Maintain Primarily MF Apps for CSD And Business

Ad-hoc Supply Resources To Dev teams

*The Initiate phase has a single sub-phase –
    Define and Initiate*

- ❖ **Prerequisite:** *Approval of a project proposal*
- ❖ **Summary Description:** *Involves defining and preparing a project Business Case for review and decision by the divisional Senior Management Team*
- ❖ **Primary Deliverables:** *Business Case and Cost Benefit Analysis*

The Business Case and Cost Benefit Analysis are living documents that are revisited, and refined throughout the project lifecycle.

Project Solution - Summary

Project Solution include the following:

❑ **Methodology** - *for managing projects*

❑ **Project Gates** – *Decision points*

❑ **Project Lifecycle Phases and Sub-Phases** – *Processes and deliverables.*

❑ **Common PM Processes** – *Project management deliverables*

❑ **Project Organization** – *Roles and responsibilities*

❑ **Engagement Model** – *Framework for ensuring the right people are engaged at the right time*