

Introduction to Project Management

<http://lbgeeks.com/gitc/pmIntro.php>

June 2, 2008

- **Definitions:**
 - **What is a Project?**
 - **What is Management?**
 - **What is Project Management?**
- **Project Life Cycle**
- **Software Project Specifics**
- **People: Stakeholders, Roles, Expectations**
- **Line, Matrix, and Project Organization**

What is a Project?

- **Collection of resources working towards the same specific goal for finite amount of time**
- **Includes capital, machines, people, organizations, software, etc.**
- **Successful projects end via transition to production or operations**
- **Unsuccessful projects are cancelled**

What is Management?

- **Application of human abilities, knowledge, and skill to control an entity, moving towards a desired goal or state**
- **Practiced by one or more people, either co-ordinated or distributed:**
 - **Bus driver**
 - **Surgical team**
- **Success requires theory and practice**
- **Psychological and technical aspects**

What is Project Management?

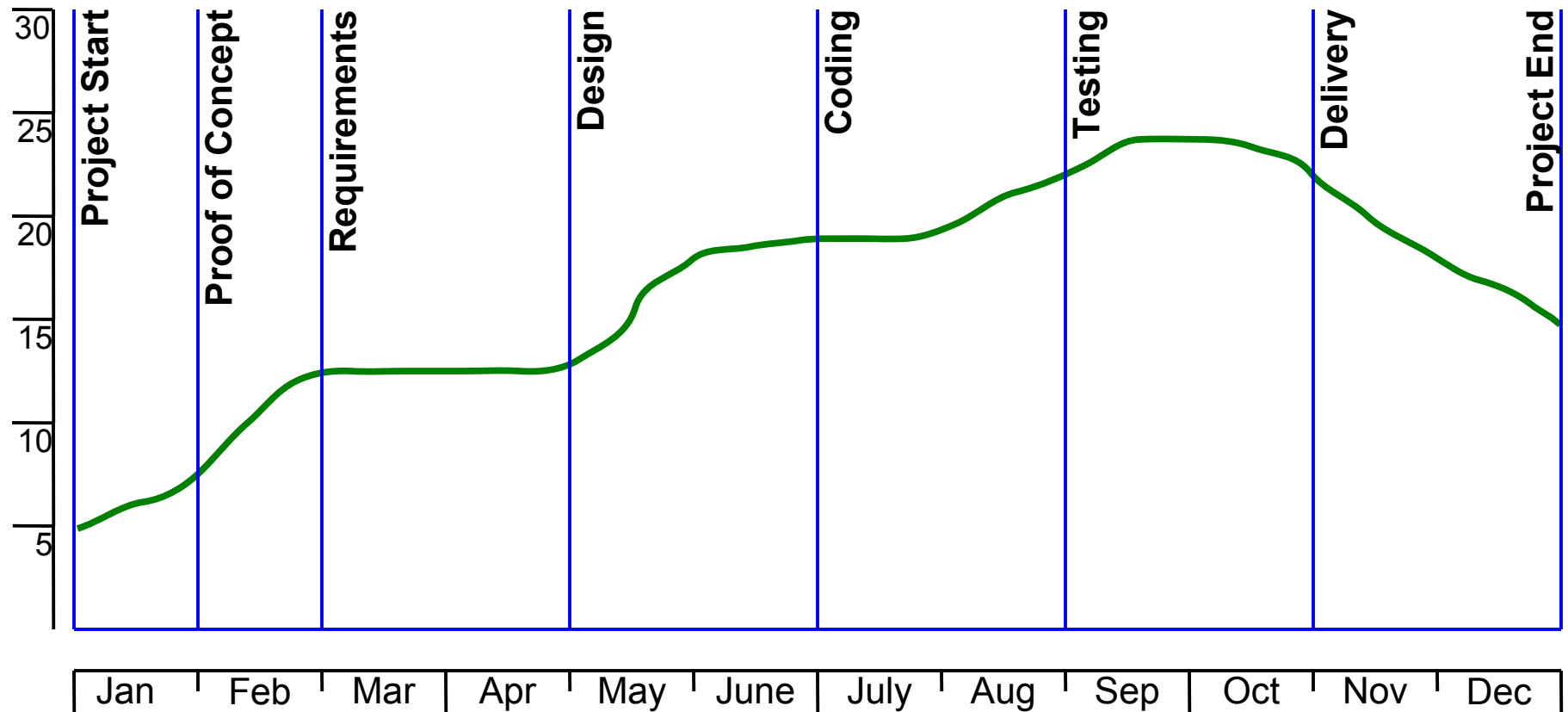
- **Team formed specifically to control a project towards success**
- **Duration same as project**
- **Reports (but not responsible) to other groups in the organization**
- **Co-ordinates within (but not across) a given project**
- **Intentionally organized autonomously**

Project Life Cycle

- **Definition**
- **Generic Cycle**
- **Industry Specific Examples:**
 - **Acquisition**
 - **Construction**

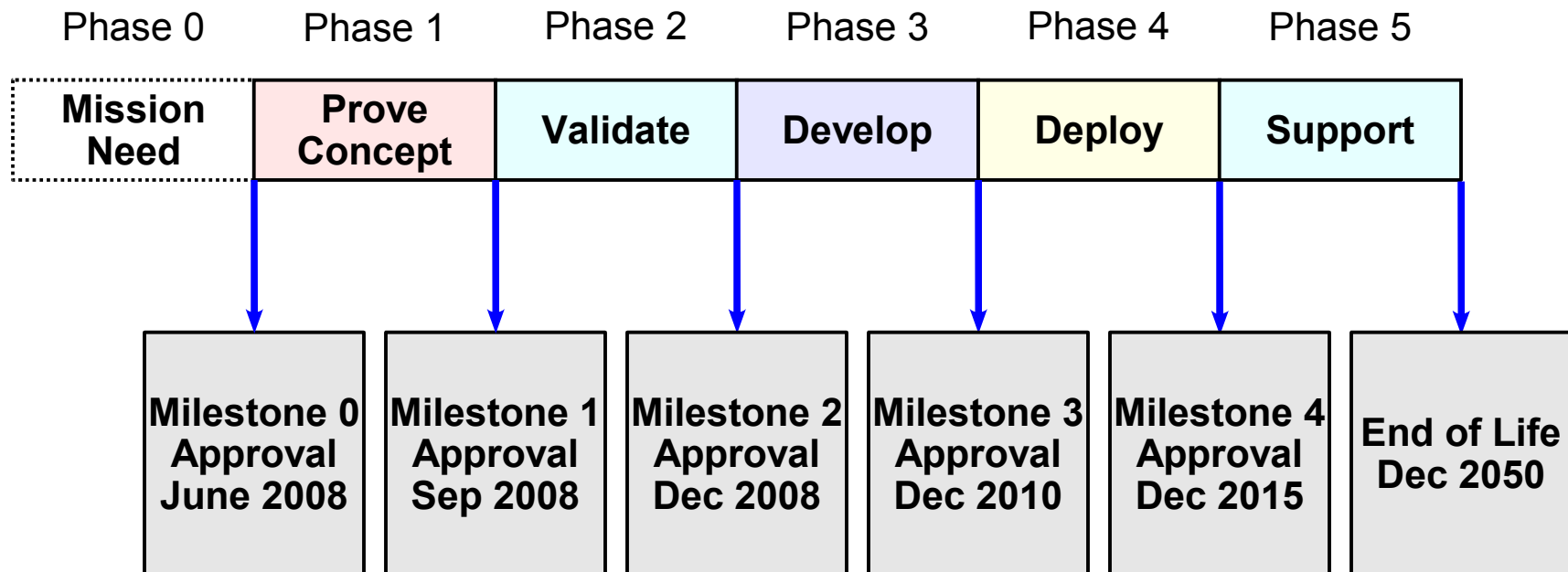
- **Project is finite: beginning, middle, end**
- **Analogous to animal or plant life**
- **Controlled to meet specific goals**
- **Life cycle is a mental model for the expected project progress**
- **Multiple aspects: budget, phase, time**

Generic Cycle

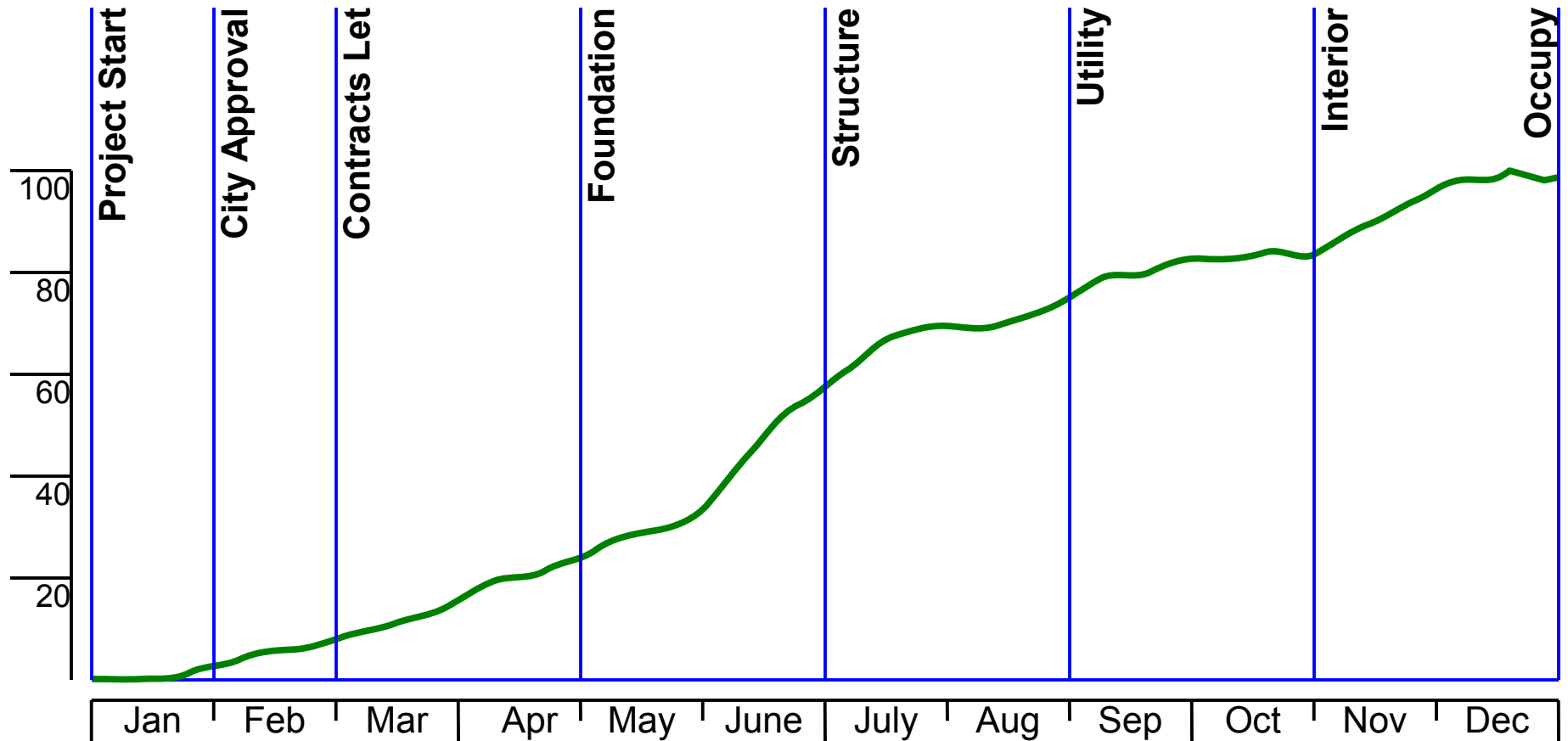


Staffing Level By Month

Acquisition Example



Construction Example



Budget Consumption By Month

Software Project Specifics

- **Intangible Nature**
- **Requirement Fluctuation**
- **Multiple Cycle Models:**
 - **Waterfall**
 - **Iterative**
 - **Spiral**

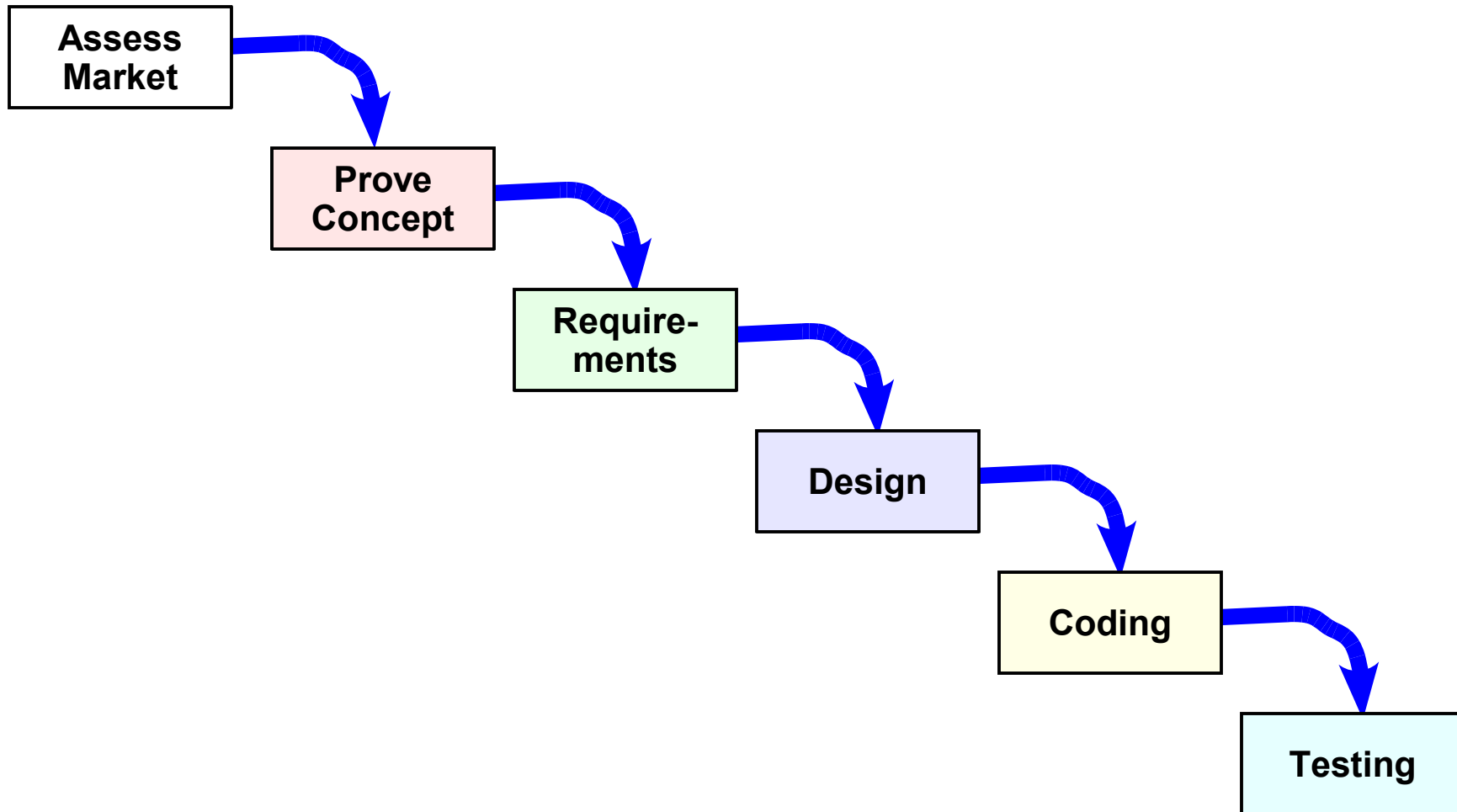
Intangible Nature of Software

- **Ever touched a bit?**
- **Direct result of human expression**
- **Very low manufacturing costs**
- **Physical defect inspection impossible**
- **Perception of quality psychological**

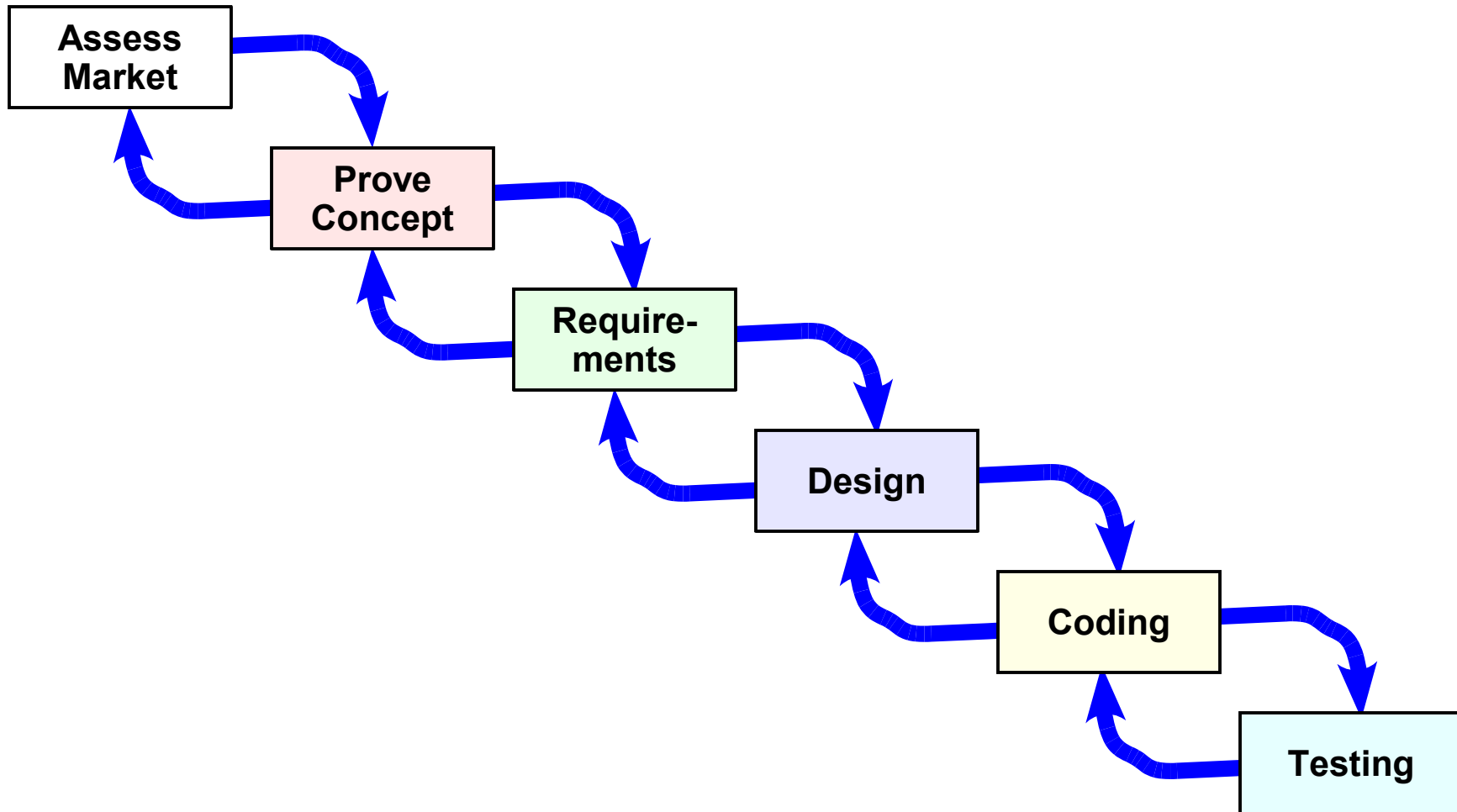
Requirement Fluctuation

- **Unspoken market needs**
- **Economy, technology changes**
- **Derived requirements surface later**
- **Prototypes reveal dissatisfaction**
- **Data definitions, interfaces fluid**

Waterfall Cycle



Iterative Cycle



Spiral Cycle

Design	Require	Design	Coding	Testing	Require	Design
Require	Testing	Coding	Testing	Require	Design	Coding
Testing	Coding	Design	Require	Design	Coding	Testing
Coding	Design	Require	Proof of Concept	Coding	Testing	Require
Design	Require	Testing	Market Assess	Testing	Require	Design
Require	Testing	Coding	Design	Require	Design	Coding
Testing	Coding	Design	Require	Testing	Coding	Testing
Coding	Design	Require	Testing	Coding	Design	Require

- **Stakeholders**
- **Roles**
- **Expectations**

Stakeholders

- **Definitions:**
 - **Customer uses the end project result**
 - **Sponsor pays for project development**
 - **Developer works on project**
 - **Project manager responsible to customer, sponsor, developer for project success**
- **Stakeholders can be:**
 - **People (tiny)**
 - **Groups (small)**
 - **Companies (medium)**
 - **Multi-nationals, governments (large)**

Roles

	Customer	Sponsor	Developer	PM
Assess Market	+	+	0	+ / 0
Prove Concept	+	+ / 0	+ / 0	+
Requirements	+ / 0	0 / -	+	+
Design	-	-	+	+
Coding	-	-	+	+
Testing	+	+ / 0	+	+

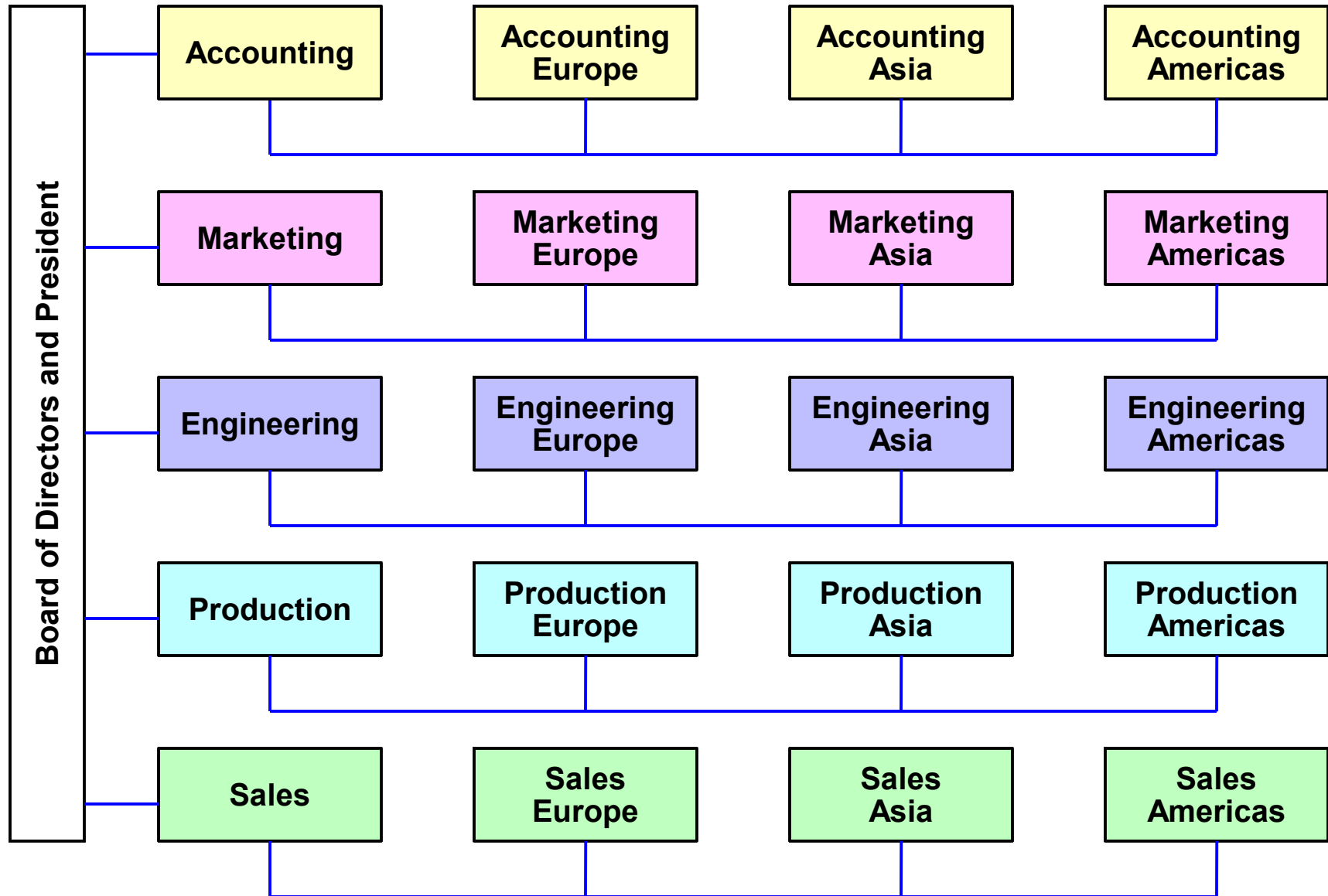
Expectations

- **Customer: function, performance, quality, utility, value**
- **Sponsor: profit, reputation**
- **Developer: employment, skills**
- **Project manager: delivery, success**

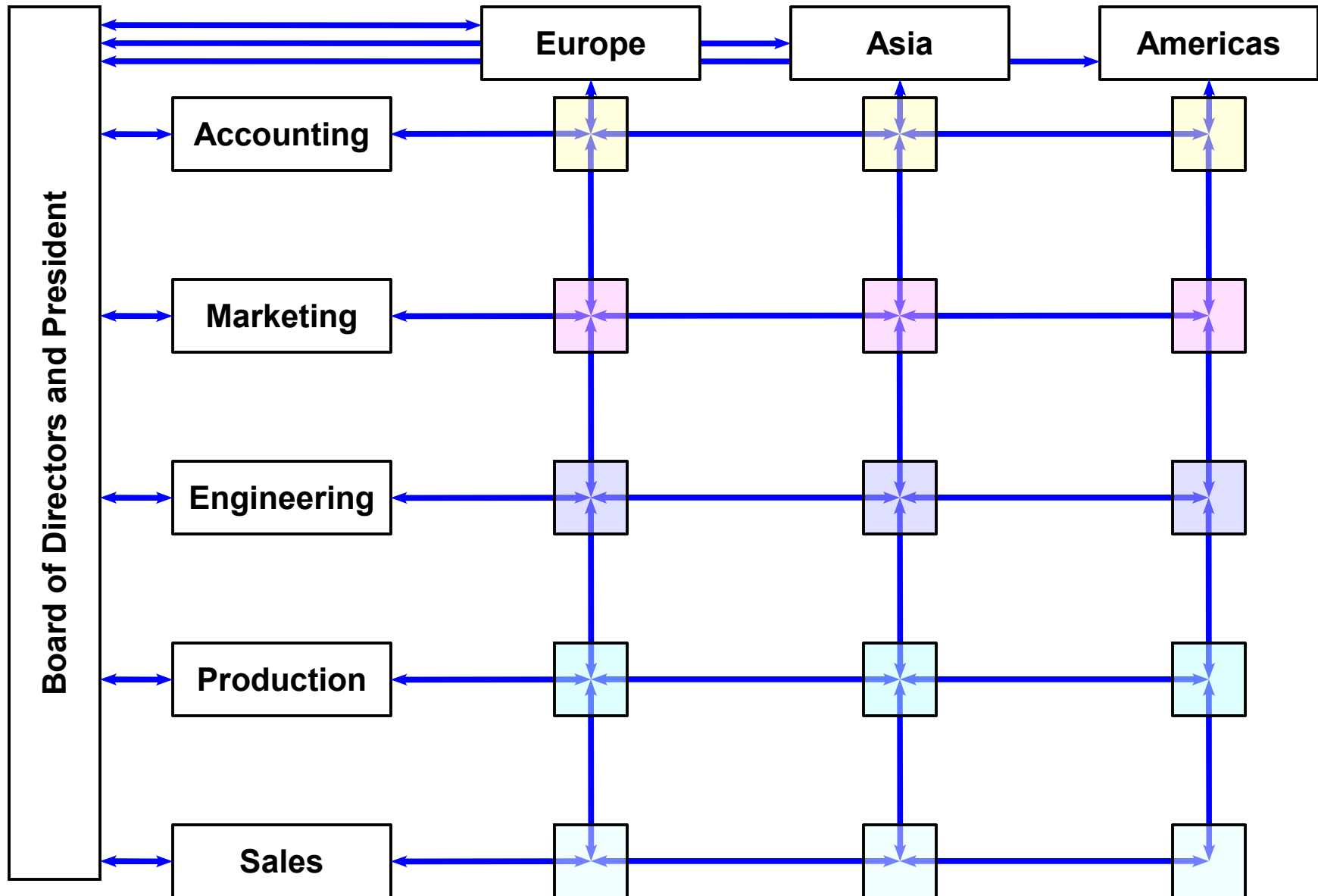
Organizations

- **Line Management**
- **Matrix Management**
- **Project Management**

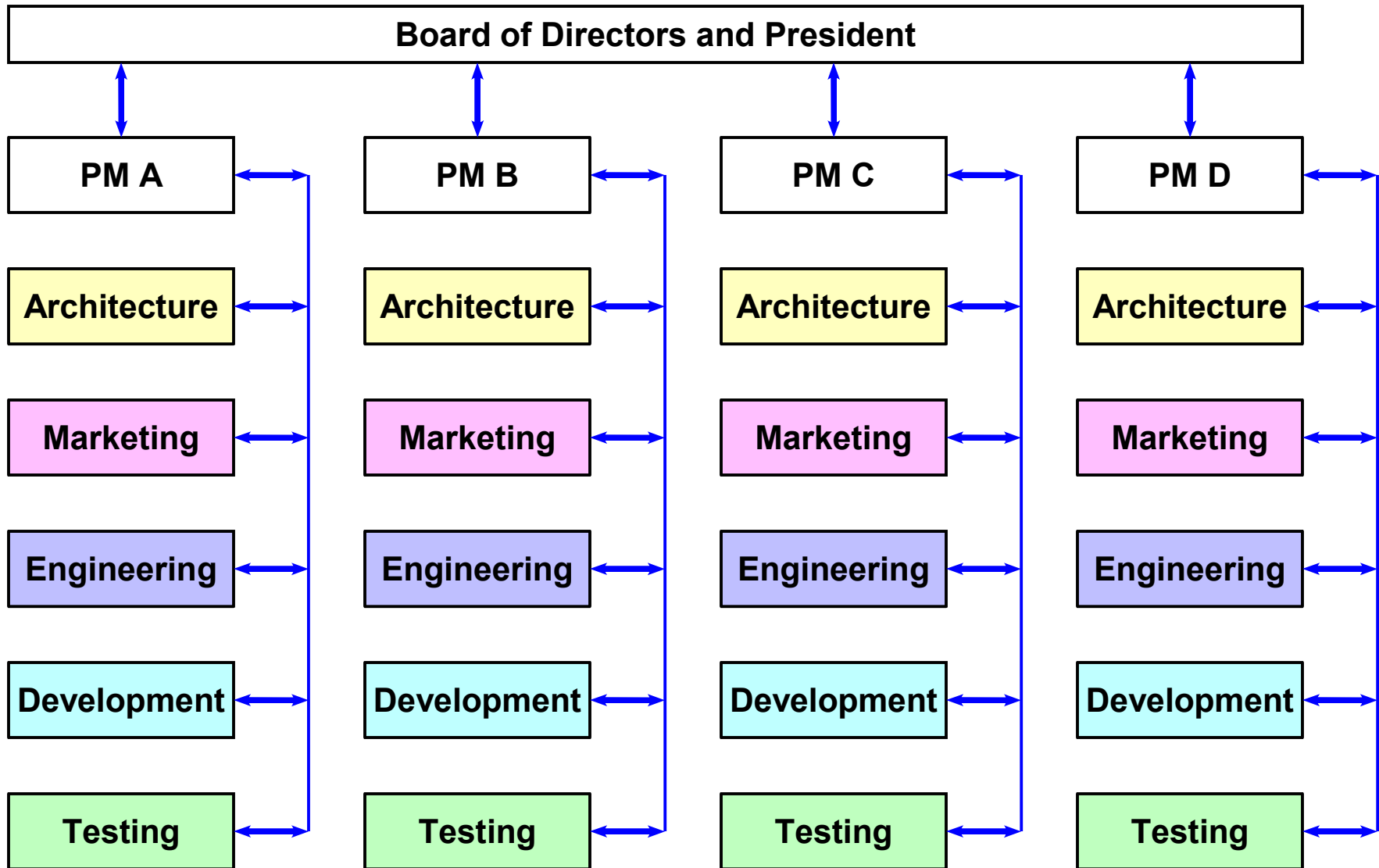
Line Management Organization



Matrix Management Organization



Project Management Organization



Summary

- **Project management is a dedicated team to meet a specific goal**
- **Incorporates both theory and practice**
- **Teams are industry specific**
- **Software presents unique challenges**
- **People interact with projects so psychology is necessary**
- **Organization's management style follows its world view**