

Dr. Aditya Kumar Sahu

# Project Management 1-2

Dr. Aditya Kumar Sahu

## Overview of Project & Prog Management.

- ❑ **WHAT : Project & different Types**
- ❑ **WHY: Important for Organizations' success**
- ❑ **WHAT : Project vs. Program**
- ❑ **MEASURE of Project SUCCESS**
- ❑ **WHY: Project Fail?**
- ❑ **WHY : Framework (like PMBOK) required for Success**



# Why a Firm exists?

CONTEXT OF STRATEGIC MANAGEMENT

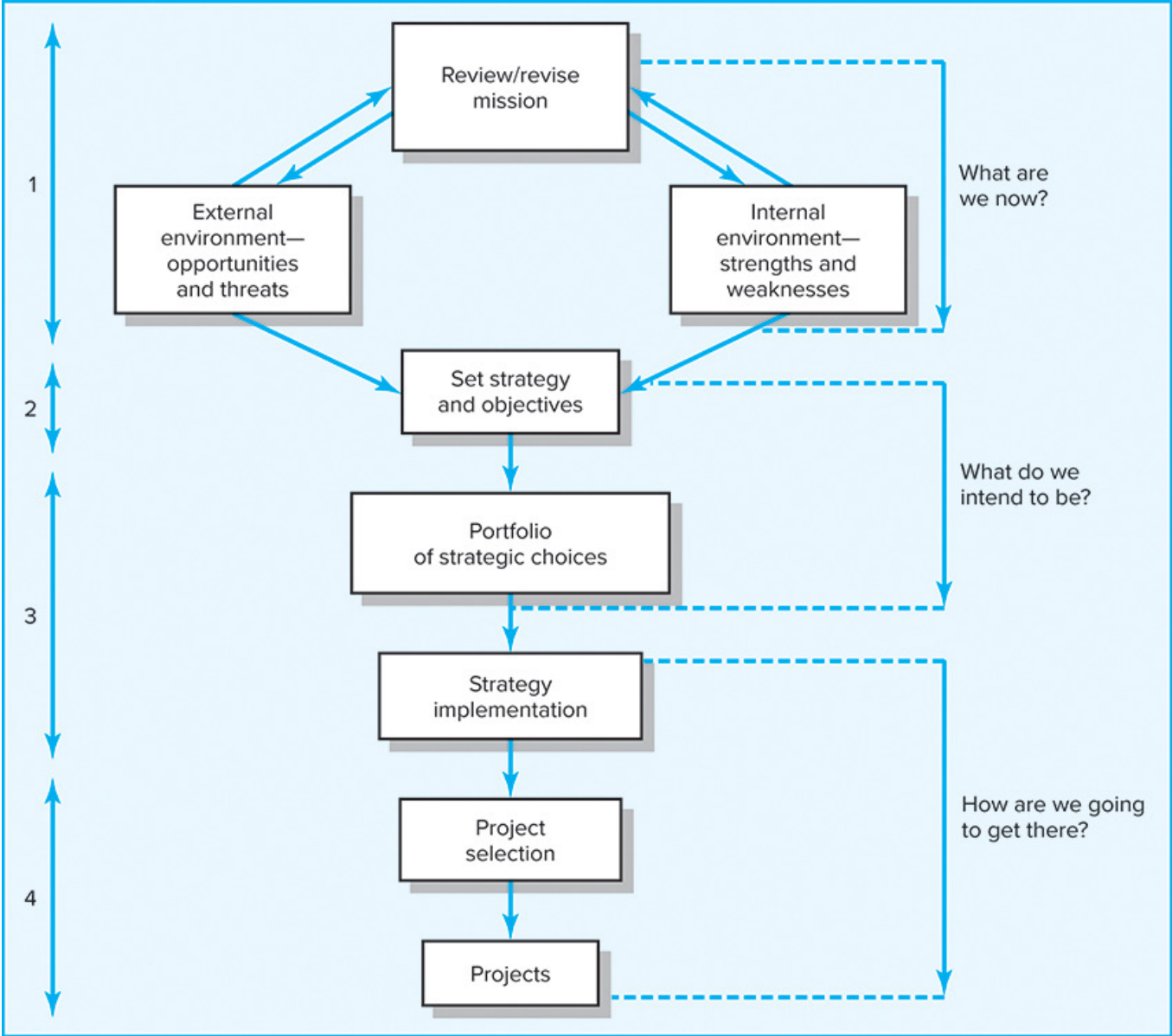
and

THE ROLE OF PROJECTS IN ACHIEVING FIRM'S VISION &  
MISSION

# Why a Firm exists?

- ❖ To create VALUE
  - Value for Customers
  - Value for Employees
    - Value for Supplier

# Strategic Management Process



A strategy is forged in the context of a firm's **vision**, **mission**, and **values**.



### **Vision**

Defines a desired future state of a firm articulating in bold terms what the company would like to achieve.



### **Mission**

Describes what a company does or strives to do; it is a statement of purpose.



### **Values**

State how people within a firm should conduct themselves, how they should do business, and what kinds of things they should care about.

## Strategic Management Defined

- Is the process of assessing “what we are” and deciding and implementing “what we intend to be” and “how we are going to get there.”
- Is a **continuous, iterative process** aimed at developing an integrated and coordinated **long-term plan** of action.
- Requires **strong links among mission, goals, objectives, strategy, and implementation.**

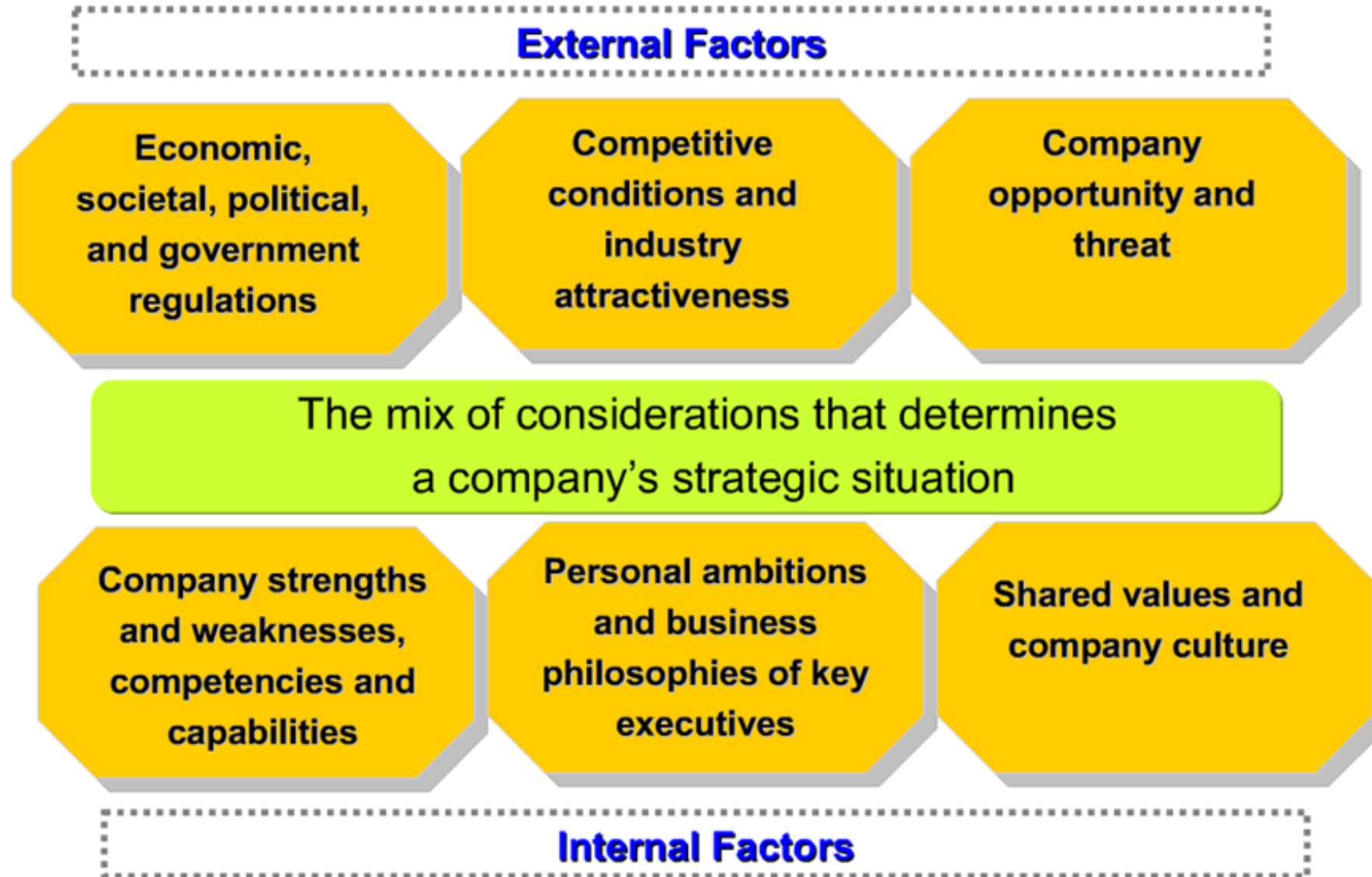
# Vocabulary of strategy

Vision	Desired future state: Aspiration of the organization	To Run the London Marathon
Mission	Describes what a company does or strives to do; it is a statement of purpose.	Be healthy & fit
Goal	General Statement of aim/purpose	Lose Weight & strengthen muscles
Objective	Quantification/Precise statement of the goal	Lose 5 Kgs by Oct 31 <sup>st</sup>
Strategic Capability	Resources, activities & processes (Unique, provide competitive advantage)	Personal Trainer, Have a Pvt Gym
Strategies	Long term direction	Exercise regularly, compete in marathons locally, stick to appropriate diet
Business Model	How product/service & information flow between participating parties	Join a running club
Control	Assess effectiveness of strategies & actions, modify strategies as necessary	Monitor weight, distance & time

## Two Major Dimensions of Organizational Strategy:

1. Responds to changes in the **external environment** and allocates the firm's scarce resources to **improve its competitive position**.
2. **Internal responses** to **new action programs** aimed at **enhancing the competitive position** of the firm.

# Factors shaping choice of strategy



## Tests of best strategy



G.E. CEO (Jack Welch) on performance test

# Characteristics of Objectives

<b>S</b>	<b>Specific</b>	Be specific in targeting an objective
<b>M</b>	<b>Measurable</b>	Establish a measurable indicator(s) of progress
<b>A</b>	<b>Assignable</b>	Make the objective assignable to one person for completion
<b>R</b>	<b>Realistic</b>	State what can realistically be done with available resources
<b>T</b>	<b>Time related</b>	State when the objective can be achieved, that is, duration

## Two main reasons project managers need to understand their organization's mission and strategy:

1. So they can make appropriate decisions and adjustments.
  - How a **project manager** would respond to a suggestion to modify the design of a product or to delays may vary depending upon **strategic concerns**.
2. So they can be effective **project advocates**. They have to be able to:
  - demonstrate to senior management how their project contributes to the firm's mission in order to garner their continued support.
  - explain to stakeholders why certain project objectives and priorities are critical in order to secure buy-in on contentious trade-off decisions.
  - explain why the project is important to motivate and empower the project team.



# Case Study

Hector Gaming Company



- Case Facts?

- Hector Gaming Company (HGC) is an educational gaming company specializing in young children's educational games



- 25% ROI in just four years of inception.
- The growth rate for the last two years has been approximately 80 percent each year.

- Sally Peters, has been written up in Young Entrepreneurs as “the young entrepreneur to watch.”



McKinley Consulting



- She has been able to develop an organizational culture in which all stakeholders are committed to innovation, continuous improvement, and organization learning.

# Major Problems at HCG



**Lack of focus**



**Lack of long term goals & objectives to support strategy**



**Resource conflicts, Organisational politics, Poor scheduling**

# Organisation politics



- 1. Frequency of conflicts**
- 2. Project managers advocating self interest**
- 3. Top management losing control**

# Resource conflicts

1. Resource allocation
2. Efforts to poach HGC's talent pool
3. Projects skipping deadlines and budgets



# Implementation Gap



some top HGC talent have been working on an international business game for college students.

## Major cause of the problem



**Company growing too fast**

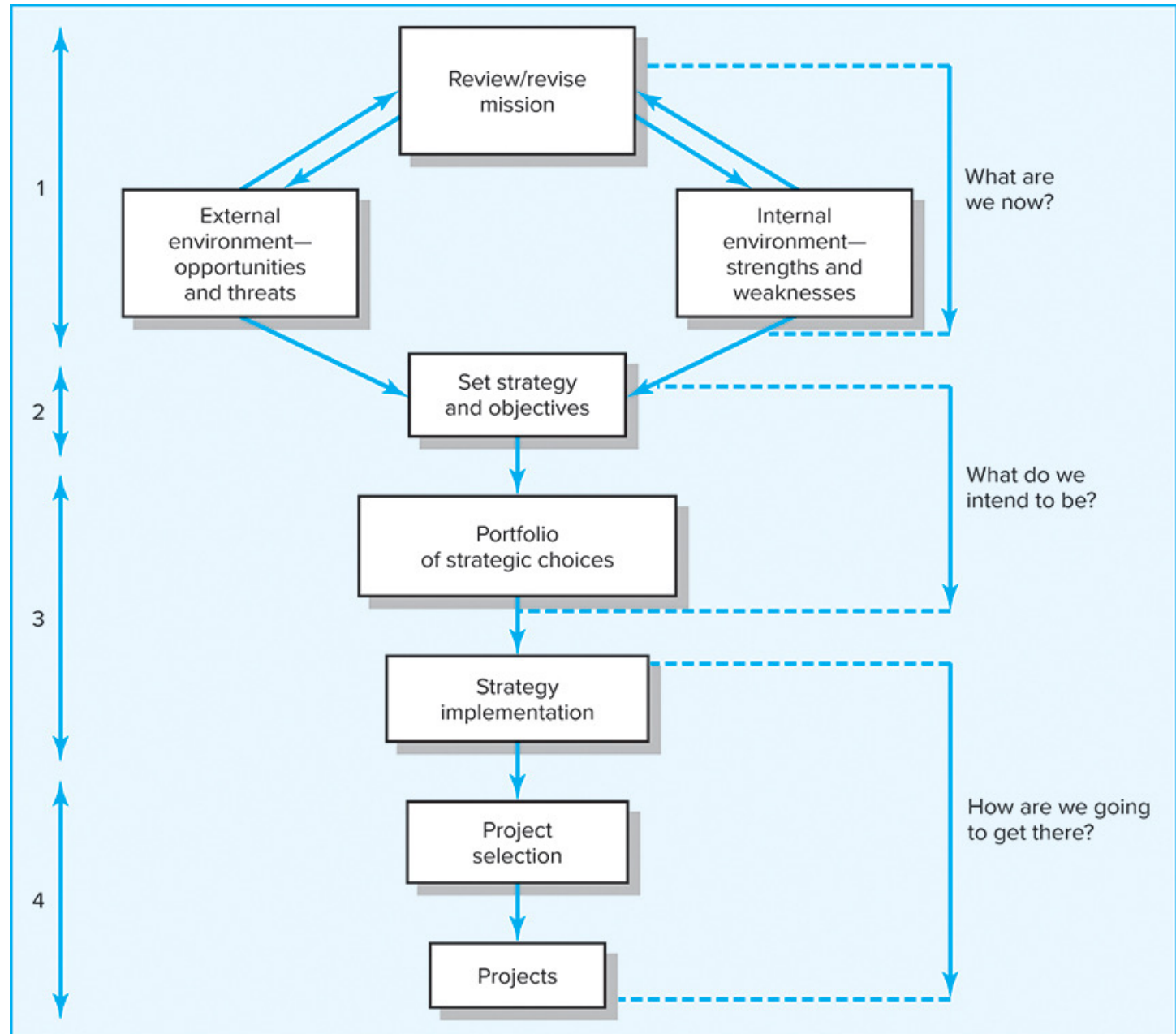


**Misalignment**  
**Mission → Strategy →**  
**Goals → Objectives →**  
**Projects**



**Attention to internal matters**

# Detailed Action Plan



## Detailed Action Plan

1. Mission of company is to be a niche in “children’s educational games”
2. Kill projects outside this mission such as the current project on international business game for college students
3. Setting strategy and objectives which are **S.M.A.R.T**—such as setting up **target numbers** for growth %, Revenue % increase, Profitability, ROI ( Financial) and non-financial such as brand growth, loyalty development etc.
4. Implement strategy through a rightful selection of projects
5. Allocate resources to priority projects
6. Track and monitor the progress of projects by setting up
7. controls
8. Implementing **corporate structure to HCG** and holding each employee accountable to their roles and responsibilities
9. More **involvement from Peters** to oversee the projects



# **ACHIEVING MISSION & VISION THROUGH OPERATIONS MANAGEMENT**

# WHAT IS OPERATION

- *Opus* (latin) = Work
- Perform your prescribed duty, for action is better than inaction. A man cannot even maintain his physical body without work. (Bhagawat Gita 3:8)
- The term “operations” refers to the application of resources (capital, materials, technology, and human skills and knowledge) to the production of goods and services.



# WHAT IS OPERATIONS MANAGEMENT

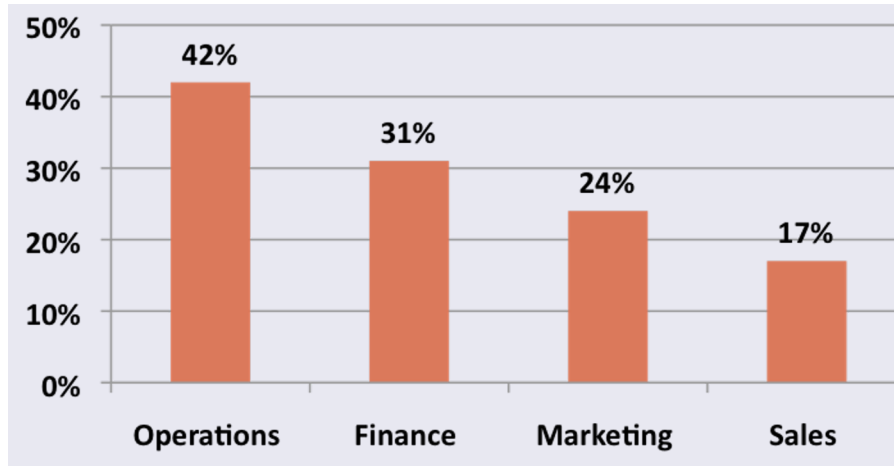
Operations Management (OM) is defined as the design, operation, and improvement of the systems that create and deliver the firm's primary products and services.

# Operations Management Modules

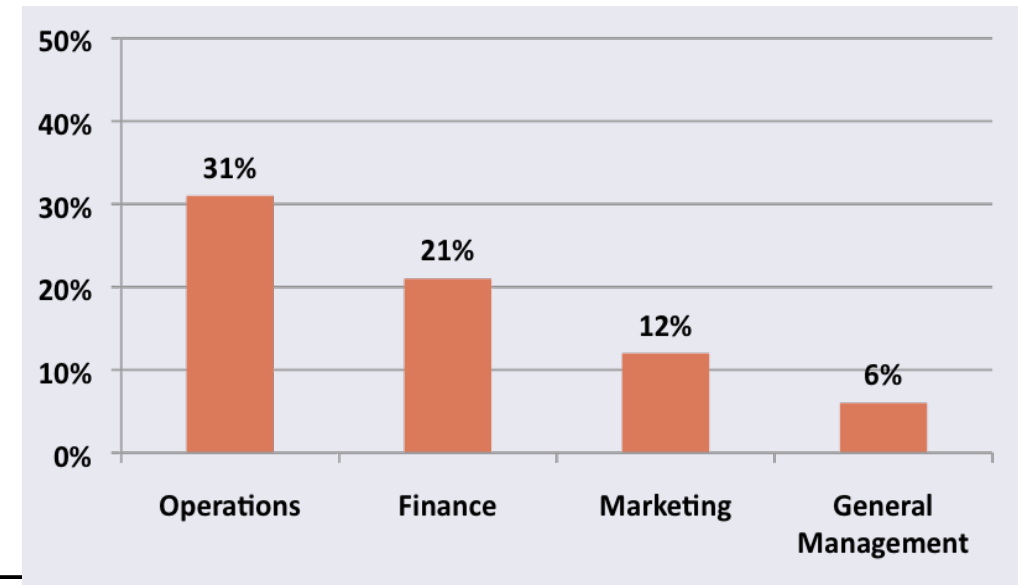
<b>Module I</b>	Overview of Operations Management and Operations Strategy
<b>Module II</b>	Process and Capacity Management
<b>Module III</b>	Quality Management
<b>Module IV</b>	Product Development
<b>Module V</b>	Project Management
<b>Module VI</b>	Supply Chain Management

# “Route to the top” of CEOs of S&P 500 companies

- 42% had Operations experience at some point in their career



- 31% were in Operations immediately before becoming CEO


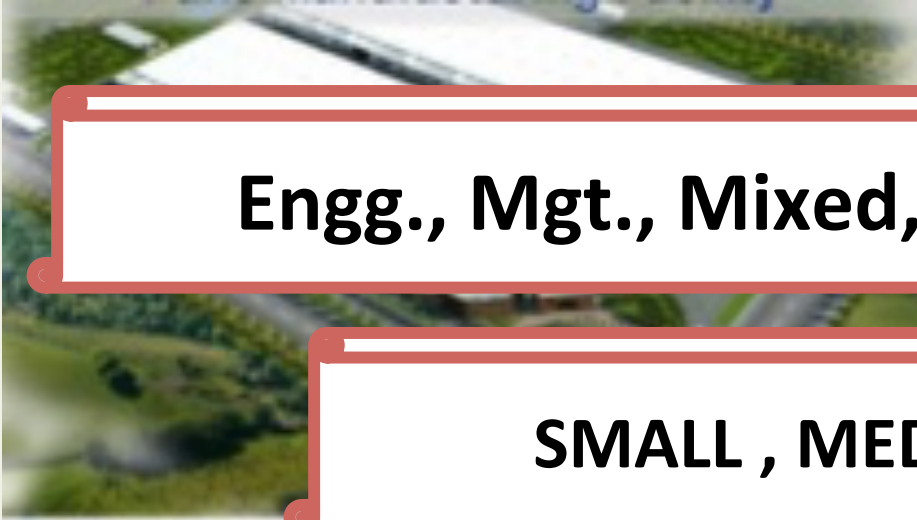


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## Overview of Projects

## GLOBAL ECONOMY INVOLVES...

<b>AGRARIAN ECO.</b>	Crops, Live Stock (Seeds), Animal Specialties, Forestry, Fishing, Hunting, Trapping,
	Mining: Metals, Gold/ Silver Ores, Coal/ Lignite,
	Crude Petroleum, Natural Gas, etc
	<b>Coffee Beans</b>
<b>INDUSTRIAL ECO.</b>	<b>Manufacturing:</b> Food Processing, Daily Products, Brewing, Clothes, Paper, Plastic, Furniture
	Chemicals, Pharma, FMCG, Steel, Cement,
	Automobile, White Goods, Machine Tools, Electronic Items,
	Aircrafts, Trains, Ships, Jewellery
	<b>Construction:</b> Residential, Commercial, Water / Sewer Pipelines, Transmission lines etc
<b>(Instant) Coffee Powder</b>	
<b>SERVICE ECO</b>	Transportation (Air, surface, water )
	Communications: Telephone, Mobile, VC etc
	Utilities (Power & Water); Inverters, Bottled water, Gas at door,
	Wholesale Trades : of various items / Retail Sale / Direct sales etc
	Financial & Insurance Services etc
	Hospitality Services, Tourism etc
	Professional Services (legal, Healthcare, Medical, Architecture, Educational, Social etc
	IT Services (Software Development + Maintenance)
	Restaurant/ Fast Food centers Coffee
	<b>Café Coffee Day</b>



**Engg., Mgt., Mixed, Social, Govt, Global**

**SMALL , MEDIUM, LARGE**



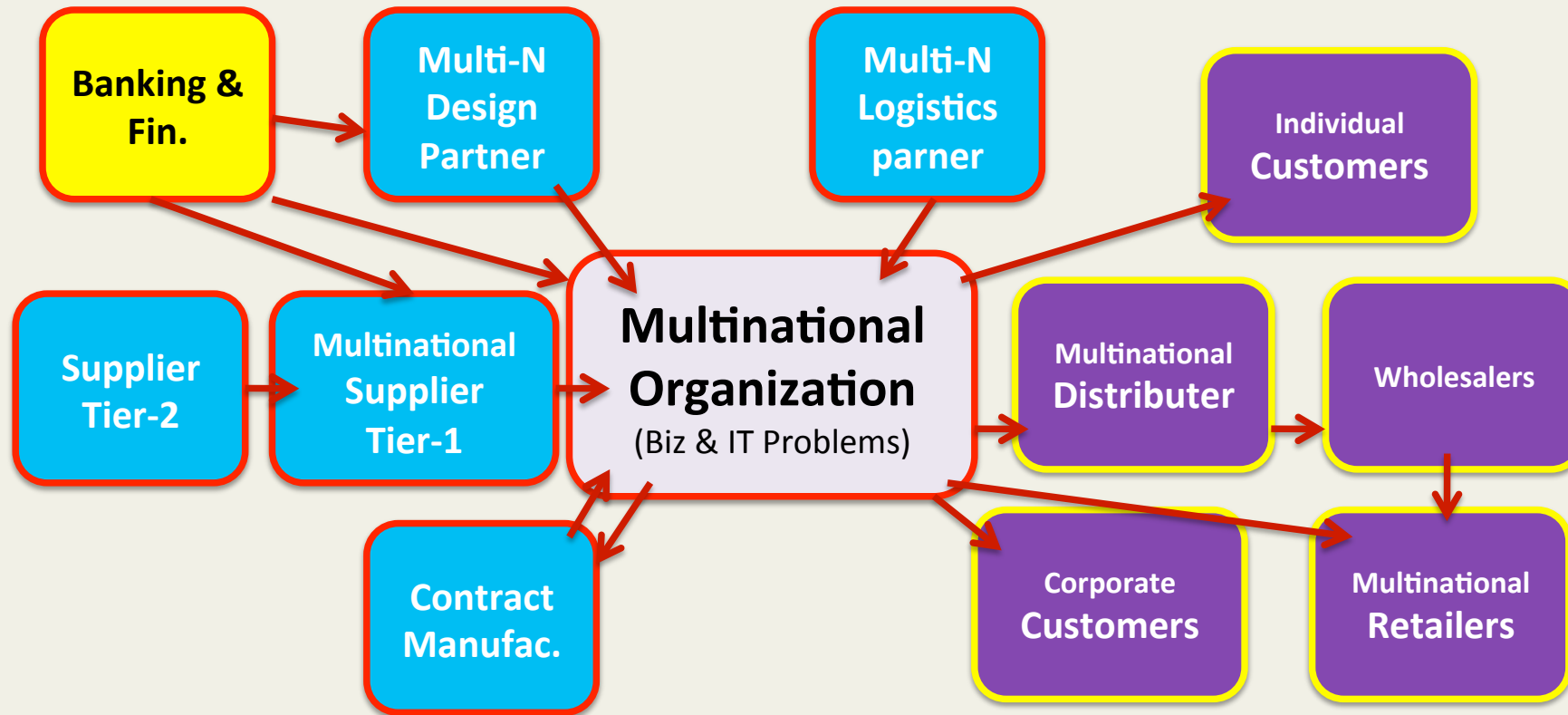
**SHORT-TERM, LONG-TERM**

**INTERNAL, EXTERNAL**

**DIFFERENT TYPES OF PROJECTS**

# Business Complexities-‘VALUE’ Chain

(current & future)



## Complexities of CHANGE & its ‘RATE’:

- Dynamic relationship with Suppliers & other Business Partners
- Dynamic relationship with Distributers/ Retailers
- Dynamic change of ‘Competition & Collaboration’

## Current Drivers of Project Management

### ■ **Factors leading to the increased use of project management:**

- Compression of the product life cycle
- Knowledge explosion
- Triple bottom line (planet, people, profit)
- Increased customer focus
- Small projects represent big problems

## **PROJECTS you have WORKED/ Familiar with :**

- ❑ LIST DOWN 3 PROJECTS OF PAST, WHERE YOU WERE A PART or ARE FAMILIAR WITH**
- ❑ CLASSIFY THOSE into some MEANINGFUL WAY**
- ❑ IDENTIFY WHY THE PROJECT WAS IMP?**
- ❑ EXPLAIN in 2 MIN (Random call)**

**INDIVIDUAL ACTIVITY: 5:00 MINUTES**

## Examples of Projects Given to Recent College Graduates

- **Business information:** install new data security system
- **Physical education:** develop a new fitness program for senior citizens
- **Marketing:** execute a sales program for a new home air purifier
- **Industrial engineering:** create a value chain report for every aspect of a key product from design to customer delivery
- **Management:** implement a new store layout design
- **Sport communication:** create a promotion plan for a women's basketball project
- **Systems engineers:** develop data mining software of medical papers and studies related to drug efficacy
- **Accounting:** work on an audit of a major client
- **Public health:** design a medical marijuana educational program
- **English:** create a web-based user manual for a new electronics product



## **“SAMPLE” TYPE of IT / DIGITAL PROJECTS :**

**IT SERVICES : PACKAGES/ PRODUCTS**

**IT SERVICES : CUSTOMIZED APPLICATIONS**

**IT PRODUCT DEVELOPMENT**

**IT CONSULTANCY/ OTHERS**



# WHAT IS A PROJECT ?

# PROJECT

A project is a **Temporary** endeavor undertaken to create a **Unique** product, service, or result

## Temporary

- definite start & end
- Small or Large

## Unique

- at least 1 attribute
- Some deliverables can be repetitive



BBC NEWS

## Aditya-L1: India set to launch its first mission to Sun

3 hours ago

## Examples of Project

- The ICC World Cup
- Producing a movie
- Software development
- Product development
- ERP implementation

# Project Management Concepts

Sequences tasks

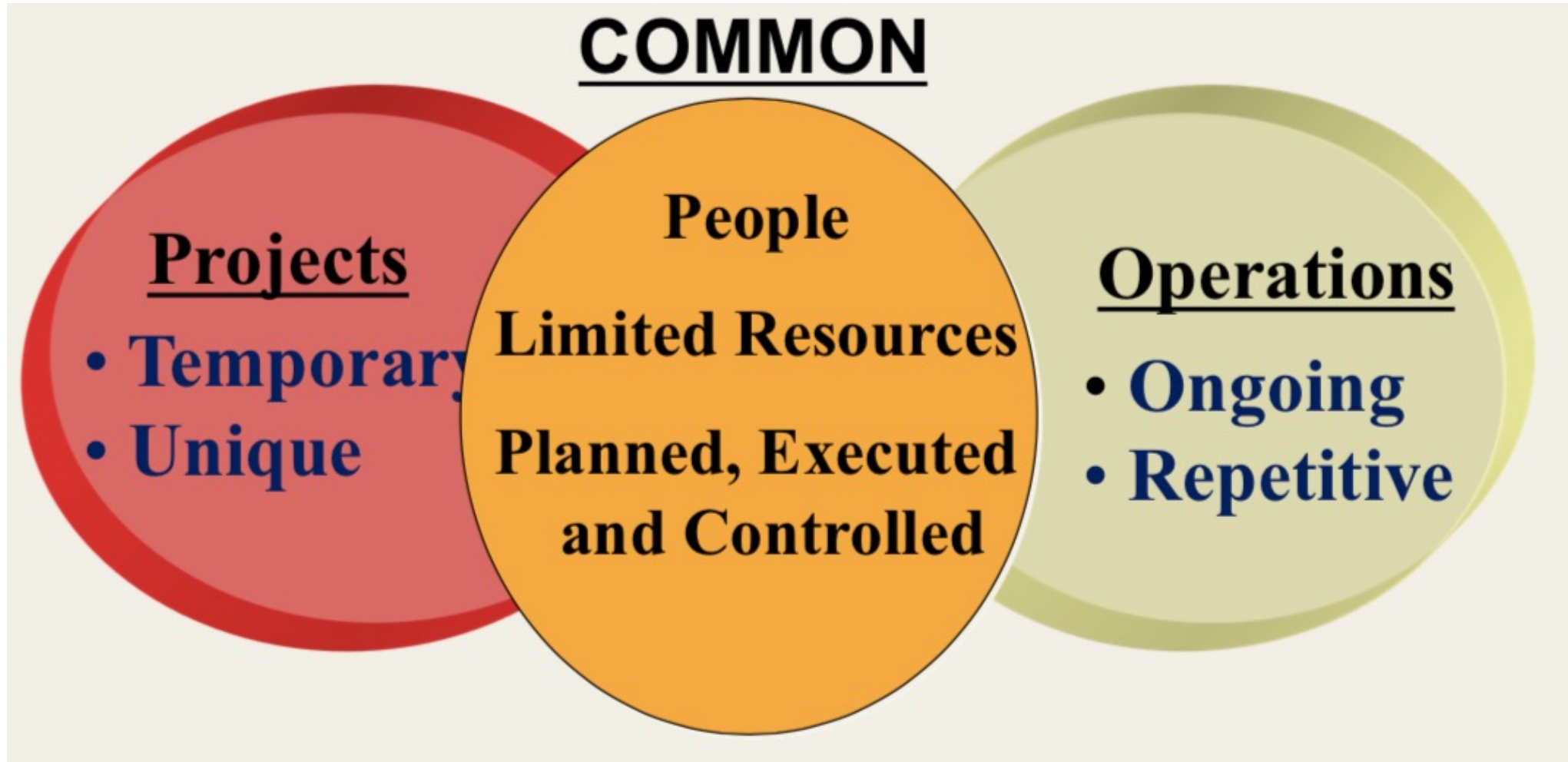


Achieves an objective

Consumes resources

Results in something new

# PROJECTS VS. OPERATIONS



## Comparison of Operations (Routine Work) with Projects

### **Operations/ Routine, Repetitive Work**

- Daily entering sales receipts into the accounting ledger
- Responding to a supply-chain request
- Practicing scales on the piano
- Routine manufacture of an Apple iPod

### **Projects**

- Setting up a sales kiosk for a professional accounting meeting
- Developing a supply-chain information system
- Writing a new piano piece
- Designing an iPad that is approximately 5X 6 inches, interfaces and functions like a PC, and is able to make calls

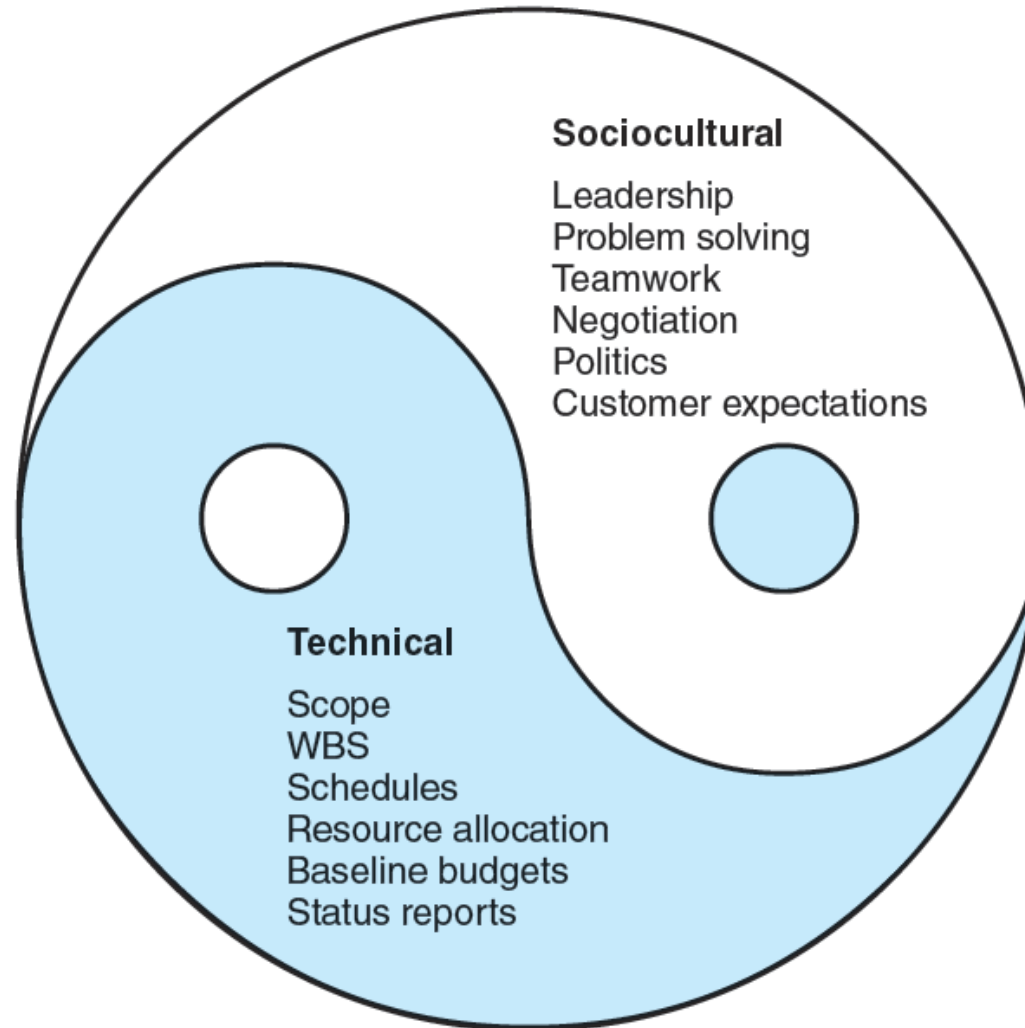
## Major Characteristics of a Project

- Has an established objective
- Has a defined life span with a beginning and an end
- Involves several departments and professionals
- Involves doing something never been done before
- Has specific time, cost, and performance requirements

## PROJECT & PROJECT MANAGEMENT: PMBOK

- ❑ A Project is a **TEMPORARY** endeavor undertaken to create **UNIQUE** product, service or results
- ❑ Project Management is the application of **knowledge, skills, tools and techniques** to project activities in order to meet **Project requirements.**

# Project Management - A Socio-Technical Approach



# Project Management Today: A Socio-Technical Approach

## ■ **The Technical Dimension (The “Science”)**

- Consists of the formal, disciplined, purely logical parts of the process.
- Includes planning, scheduling, and controlling projects.

## ■ **The Sociocultural Dimension (The “Art”)**

- Involves the contradictory and paradoxical world of implementation.
- Centers on creating a temporary social system within a larger organizational environment that combines the talents of a divergent set of professionals working to complete the project.

# The Challenges of Project Manager

## The Project Manager

- Manages temporary, non-repetitive activities and frequently acts independently of the formal organization.
- Marshals resources for the project.
- Is the direct link to the customer.
- Works with a diverse troupe of characters.
- Provides direction, coordination, and integration to the project team.
- Is responsible for performance and success of the project.
- Must induce the **right people** at the **right time** to **address** the **right issues** and make the right decisions.



Department of Electronics and Information Technology  
Ministry of Communications and Information Technology  
Government of India

**E-HOSPITAL**  
HEALTH SERVICES MADE EASY

HOW E-HOSPITAL  
TAKES CARE OF YOU

**NO MORE LONG QUEUES**  
FOR REGISTRATION  
AND APPOINTMENTS

**NO MORE RUNNING  
PILLAR TO POST**



**“WHY” PROJECTS important for SUCCESS**

## “WHY” PROJECTS :

Type	PROJECT	
<b>1</b>	<b>Client’s Business Benefits</b>	
	(growth of Topline, Bottomline, Market Share, New market, New Product , Branding, better Customer/ End-Users experience...)	
<b>2</b>	<b>Service Providers Business Benefits</b>	
	growth of Topline, Bottomline, Market Share, New market, New Product , Branding, better Employees experience...)	
<b>3</b>	<b>Legal/ Statutory Requirements</b>	
<b>4</b>	<b>Technology leverage for new products/ Services</b>	

# PROGRAM & PROGRAM MANAGEMENT: PMBOK

## ■ Program Defined

- A group of related projects designed to accomplish a common goal over an extended period of time

## ■ Program Management Defined

- A process of managing a group of ongoing, interdependent, related projects in a coordinated way to achieve strategic objectives

## Examples:

- Project: completion of a required eMDP session in project management
- Program: completion of all eMDP sessions required for a certification program

## DIFFERENCE BETWEEN PROJECT & PROGRAM

<b>ATTRIBUTE</b>	<b>Project Mgmt.</b>	<b>Program Mgmt.</b>
<b>No. of Projects</b>	<b>One</b>	<b>many</b>
<b>Deliverable Complexity</b>	<b>Low</b>	<b>High</b>
<b>Delivery Size</b>	<b>Small &amp; medium</b>	<b>Very Large</b>
<b>No. of people involved</b>	<b>Few</b>	<b>High</b>
<b>Resource Sharing</b>	<b>Very Low</b>	<b>High</b>
<b>Degree of dependency</b>	<b>Low</b>	<b>High</b>
<b>Focus on Corporate Obj.</b>	<b>Low</b>	<b>High</b>
<b>Team's focus</b>	<b>Project</b>	<b>Organization's Business Value</b>
<b>Co-location of People</b>	<b>One or few places</b>	<b>Globally Distributed</b>
<b>Requirement of Knowledge of External World (Technology/ Competitors)</b>	<b>Low</b>	<b>High</b>



**What is a successful project?**

# Define SUCCESS for IT Projects

## **CUSTOMER:**

BUSINESS & IT OUTCOME/  
PROJECT VALUE/ LONG-TERM  
TRUSTED RELATIONSHIP

## **SR. MANAGEMENT:**

BUSINESS & IT OUTCOME/  
PROJECT VALUE/ LONG-TERM  
TRUSTED RELATIONSHIP

# Define SUCCESS for IT Projects

## **PROJECT TEAM (Employees)**

- DELIVERABLE WITH-IN TIME/  
BUDGET/ SCOPE/QUALITY variance
- NEW KNOWLEDGE
- APPRECIATION/ REWARD

**BIZ PARTNERS:**  
LONG-TERM TRUSTED  
RELATIONSHIP  
FURTHER BUSINESS



What exactly is the project failure?

## What is a failed project?

- Traditional Definition: a cost or timescale overrun in excess of 100%.

- What exactly is the project failure:
  
- Three aspects:
  - 1) the implementation process itself (time, budget & scope);
  - 2) the perceived value of the project; &
  - 3) client satisfaction with the delivered project

*Source: Pinto, J. K., & Mantel, S. J. (1990). The causes of project failure. IEEE transactions on engineering management, 37(4), 269-276.*

## Project failure


- More than 68% of [IT projects](#) fail (Source: [TechRepublic](#))
- 75% of IT executives believe their projects are “doomed from the start” (Source: [Geneca](#))
- 50% of all Project Management Offices (PMOs) close within just three years (Source: [KeyedIN](#))

## CHAOS report by Standish Group on Project Failure

Resolution Type 1, or project success: *The project is completed on-time and on-budget, with all features and functions as initially specified.*

Resolution Type 2, or project challenged: *The project is completed and operational but over-budget, over the time estimate, and offers fewer features and functions than originally specified.*

Resolution Type 3, or project impaired: *The project is canceled at some point during the development cycle.*



Why do projects fail or do not meet customer expectations?

(Exercise: 1 Min)

- Standish Group Research of 70,000 completed IT projects.
- CHAOS Summary of 2015 research report

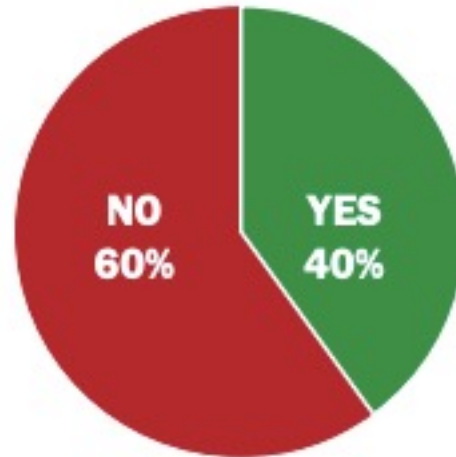
	2011	2012	2013	2014	2015
SUCCESSFUL	39%	37%	41%	36%	36%
CHALLENGED	39%	46%	40%	47%	45%
FAILED	22%	17%	19%	17%	19%

### ONBUDGET



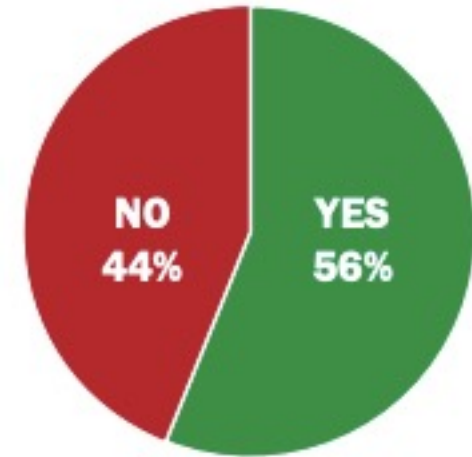
*The percentage of projects that were OnBudget from FY2011-2015 within the new CHAOS database.*

### ONTIME



*The percentage of projects that were OnTime from FY2011-2015 within the new CHAOS database.*

### ONTARGET



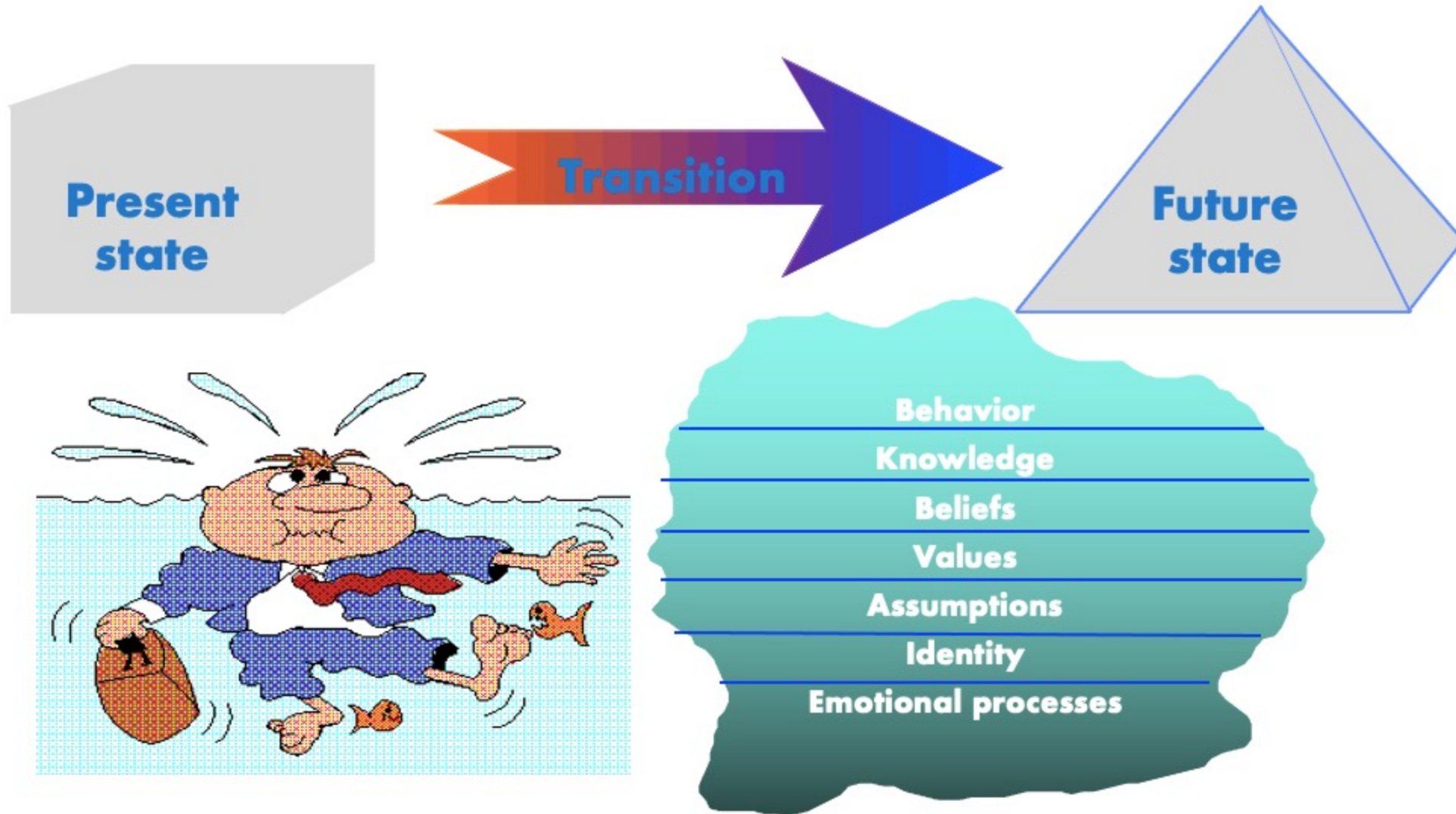
*The percentage of projects that were OnTarget from FY2011-2015 within the new CHAOS database.*

Project Impaired Factors	% of Responses
1. Incomplete Requirements	13.1%
2. Lack of User Involvement	12.4%
3. Lack of Resources	10.6%
4. Unrealistic Expectations	9.9%
5. Lack of Executive Support	9.3%
6. Changing Requirements & Specifications	8.7%
7. Lack of Planning	8.1%
8. Didn't Need It Any Longer	7.5%
9. Lack of IT Management	6.2%
10. Technology Illiteracy	4.3%
Other	9.9%

Source: Standish Group Report, 2014



## ALL PROJECT ENGAGEMENTS INVOLVE CHANGE ISSUES



# Why do projects succeed?



<b>Project Success Factors</b>	<b>% of Responses</b>
<b>1. User Involvement</b>	<b>15.9%</b>
<b>2. Executive Management Support</b>	<b>13.9%</b>
<b>3. Clear Statement of Requirements</b>	<b>13.0%</b>
<b>4. Proper Planning</b>	<b>9.6%</b>
<b>5. Realistic Expectations</b>	<b>8.2%</b>
<b>6. Smaller Project Milestones</b>	<b>7.7%</b>
<b>7. Competent Staff</b>	<b>7.2%</b>
<b>8. Ownership</b>	<b>5.3%</b>
<b>9. Clear Vision &amp; Objectives</b>	<b>2.9%</b>
<b>10. Hard-Working, Focused Staff</b>	<b>2.4%</b>
<b>Other</b>	<b>13.9%</b>

Source: Standish Group Report, 2014

## WHY PROJECTS FAIL

- Lack of Users Involvement**  
**TIME (Availability);**  
**TIMINGS**
- Rapport / Relationship with Users (Group)**  
**COMMUNICATIONS ;**  
**EFFECTIVE TEAM WORK;**  
**EXPECTATIONS MGT**  
**(over promising & under Delivering)**
- Loss of FOCUS on the BIG PICTURE (Business Objectives)**



## WHY PROJECTS FAIL

❑ (Poor) Speed of Decision making

A Simple suggestion:

including Decision maker reduces:

- ✓ meeting time by 20%;
- ✓ increases decision quality;
- ✓ decreases decision reversal...



## WHY PROJECTS FAIL

### Emotional Maturity

- ✓ Perceive; assess; direct & manage emotions & actions of stakeholders
- ✓ [over-ambition; arrogance; ignorance; abstinence; fraudulence]

### Scope Optimization

- ✓ Doing TOO MUCH what is NOT reqd (non-value)
- ✓ Doing too less for what is reqd. (value-adding)
- ✓ 50% features wasted.....many required missed...



A GUIDE TO THE  
PROJECT MANAGEMENT  
BODY OF KNOWLEDGE

# PMBOK<sup>®</sup> GUIDE

SIXTH EDITION

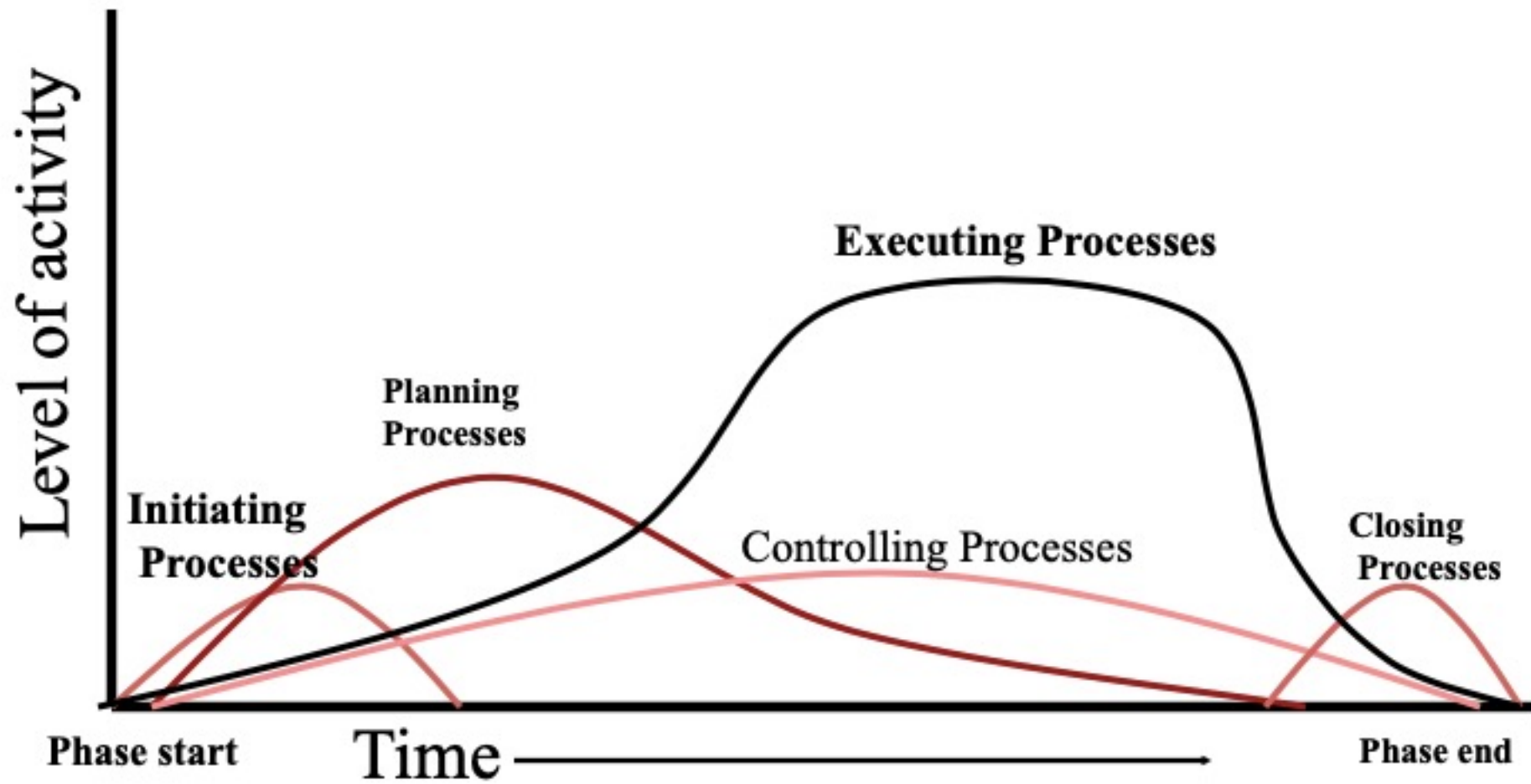
INCLUDES: THE STANDARD  
FOR PROJECT MANAGEMENT  
ANS/PMI 99-001-2017



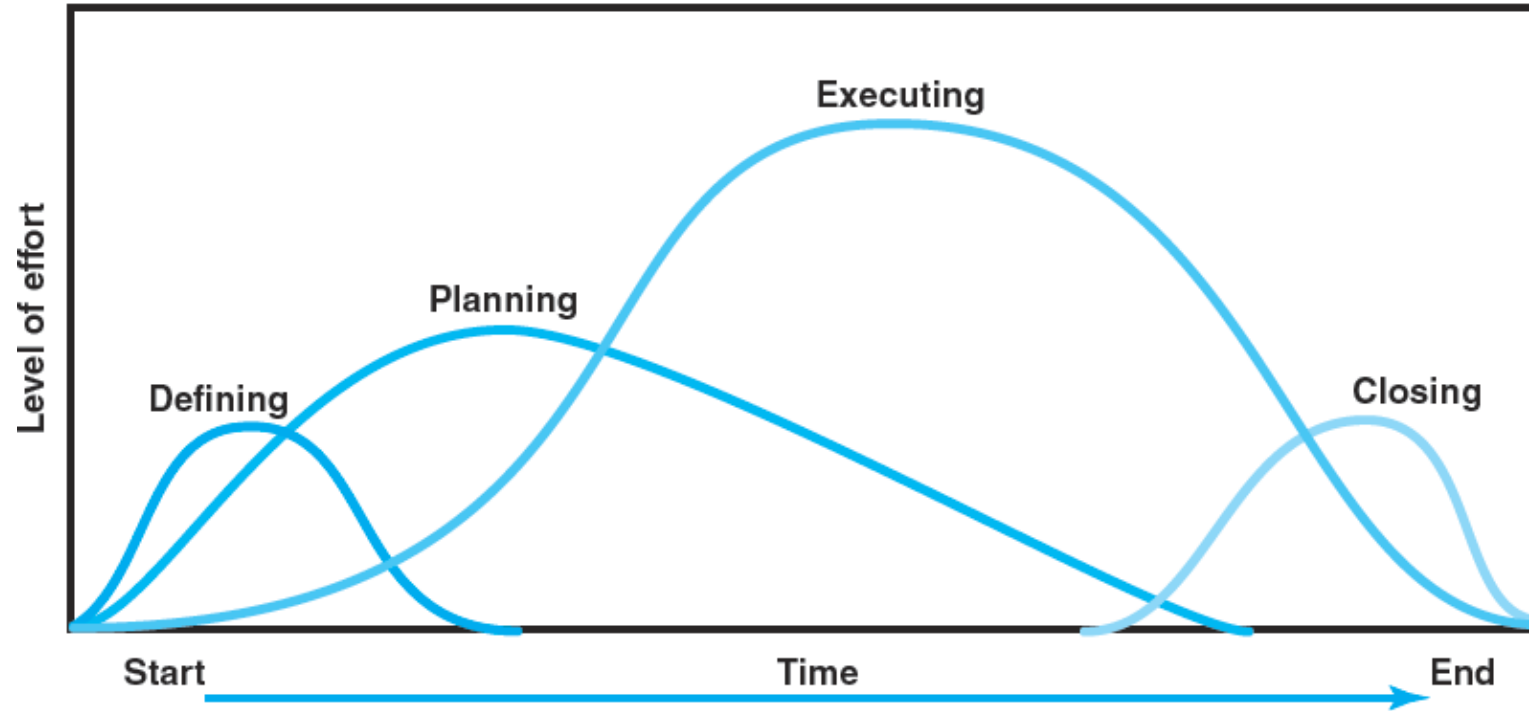
## **PMBOK: BASIC FRAMEWORK**

- ☐ 5 PROJ. MGT. PROCESS GROUPS**
- ☐ 10 KNOWLEDGE AREAS**
- ☐ 47 BEST PRACTICES**
- ☐ Inputs, Tools and Techniques , Outputs  
for EACH Best Practice**

**Because Proj Mgt is both Art & Science**



# Project Life Cycle



## Defining

1. Goals
2. Specifications
3. Tasks
4. Responsibilities

## Planning

1. Schedules
2. Budgets
3. Resources
4. Risks
5. Staffing

## Executing

1. Status reports
2. Changes
3. Quality
4. Forecasts

## Closing

1. Train customer
2. Transfer documents
3. Release resources
4. Evaluation
5. Lessons learned

## 5 PM PROCESS GROUPS

### IPECC:

- Initiating Process Group : commitment to execute
- Planning Process Group : prepare approach to action
- Executing Process Group : co-ordinate resources & execute plans
- Monitoring & Controlling Process Group : monitor 'actual' vs. 'planned' & take corrective actions for variance
- Closing: formal acceptance & orderly end

## 10 KNOWLEDGE AREAS

- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project Human Resource Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management
- Project Shareholders Expectations Management
- Professional Responsibility (Code of Conduct)

Areas	INITIATION	PLANNING	EXECUTING	MONITORING & CONTROLLING	CLOSING
<b>INTEGRATION</b>	Dev Charter	Dev PM Plan	Direct & Manage Proj Work	Monitor & Control Proj Work Perform Integrated Change Control	Close Project or Phase
<b>SCOPE</b>		Plan Scope Mgt Collect Requirements Define Scope Create WBS		Validate Scope Control Scope	
<b>TIME</b>		Plan Schedule Mgt Define Activities Sequence Activities Estimate Activities Resources Estimate Activities Duration Dev. Schedule		Control Schedule	
<b>COST</b>		Plan Cost Mgt Estimate Costs Determine Budgets		Control Costs	
<b>QUALITY</b>		Plan Quality Mgt	Perform Quality Assurance	Control Quality	
<b>HR</b>		Plan HR Mgt	Acquire Proj Team Develop Project Team Manage Project Team		
<b>COMMUNICATION</b>		Plan Communication Mgt	Manage Communications	Control Communications	
<b>RISK</b>		Plan Risk Mgt Identify Risks Perform Qualitative Risks Analysis Perform Quatitative Risks Analysis Plan Risk Response		Control Risks	
<b>PROCUREMENT</b>		Plan Procurement Mgt	Conduct Procurement	Control Procurement	Close Procurement
<b>STAKEHOLDER</b>	Identify Stakeholders	Plan Stakeholders Mgt	Manage Stakeholders Engagement	Control Stakeholders Engagement	

# Defining Project Life Cycle Processes

Project Life Cycle Processes				
Initiating	Planning	Executing	Controlling	Closing
<ul style="list-style-type: none"><li>– authorizing the project or phase</li></ul>	<ul style="list-style-type: none"><li>– prepare approach to action</li></ul>	<ul style="list-style-type: none"><li>– coordinating resources to carry out the plan</li></ul>	<ul style="list-style-type: none"><li>– monitor ‘actual’ vs. ‘planned’ &amp; take corrective actions for variance</li></ul>	<ul style="list-style-type: none"><li>– formalizing acceptance of the project or phase and bringing it to an orderly end</li></ul>

# Project Process Deliverables

## Project Life Cycle Processes

Initiating

Planning

Executing

Controlling

Closing

- Project Charter

Project Plan

- Scope
- WBS

- Project Plan

Change Control

- Scope
- Schedule

- Sign Off
- Lessons Learned