IT Project Management

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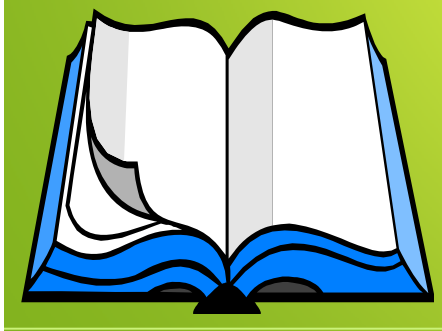
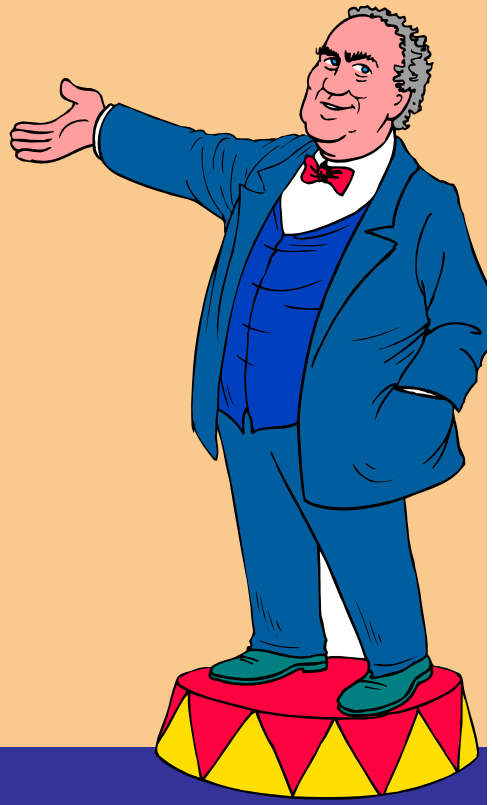




Why Study IT Project Management?

Chapter 1 Introduction to IT Project Management

Lecturer: Mr. Lim Lyheng (Mse in Computer Application Technology, China)

Reasons for studying IT Project Management

Many organizations assert that using project management provides advantages, such as:

- **Better control of financial, physical, and human resources**
- **Improved customer relations**
- **Shorter development times**
- **Lower costs and improved productivity**
- **Higher quality and increased reliability**
- **Higher profit margins**
- **Better internal coordination**
- **Positive impact on meeting strategic goals**
- **Higher worker morale**

What is a Project?

Project is a temporary and one-time endeavor undertaken to create a unique product or service, which brings the beneficial change or added value.

What is a Project Attribute/Feature?

- *A project has a unique purpose.*
- *A project is temporary.*
- *A project is developed using progressive elaboration.*
- *A project requires resources, often from various areas.*
- *A project should have a primary customer or sponsor.*
- *A project involves uncertainty/new Technology*

What is a Project Management?

The application of knowledge, skills, tools and techniques to project activities to meet project requirements

Organizing and managing resources so the project is completed within defined scope, quality, time and cost constraints

What is an IT Project?

- New or enhanced functionality to hardware, software or IT Services.
- Temporary endeavor with a start and finish.
- Creates a product or service.

Example of IT Project

- A technician replaces ten laptops for a small department
- A small software development team adds a new feature to an internal software application for the finance department
- A college campus upgrades its technology infrastructure to provide wireless Internet access across the whole campus

Example of IT Project

- A cross-functional taskforce in a company decides what Voice-over-Internet-Protocol (VoIP) system to purchase and how it will be implemented
- A company develops a new system to increase sales force productivity and customer relationship management
- A television network implements a system to allow viewers to vote for contestants and provide other feedback on programs

What are the Characteristics of IT Project?

Information Technology (IT) project characteristics include:

- New, or enhanced, functionality;
- One time activity;
- Begin and end date;
- Performed by people;
- Constrained by limited resources (budget);
- Planned;
- Executed; and
- Controlled.

What is an IT Project Management?

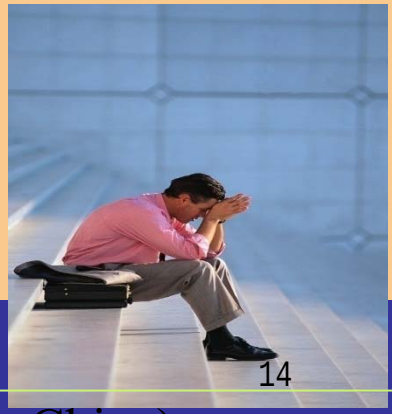
IT project management is the process of planning, organizing and delineating responsibility for the completion of organizations' specific information technology (IT) goals.

Size of IT Project Management

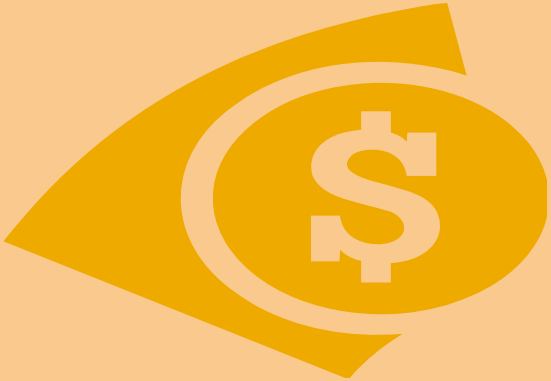
- Projects can be large or small and involve one person or thousands of people.
- They can be done in one day or take years to complete.
- Information technology projects involve using hardware, software, and/or networks to create a product, service, or result

Why IT Projects Fail ?

1. **Weak business case**
2. **Lack of senior management commitment**
3. **Inadequate project planning (budget, schedule, scope, etc.) i.e. over budget, time and scope creep**
4. **Absence of user involvement (Products Never Used)**
5. **New or unfamiliar technology**
6. **Lack of defined, clear, or concise requirements**
7. **Major Part Failure**
   - Failure in the Planning Part
   - Failure in the Development Part
   - Failure in the Ending Part



Why IT Projects Succeed?



Why IT Projects Succeed?

1. **Sound project management processes**
2. **Project tied to the organization's business goals**
3. **Senior management commitment**
4. **Good change management**
5. **Detailed requirements**

Why IT Projects Succeed?

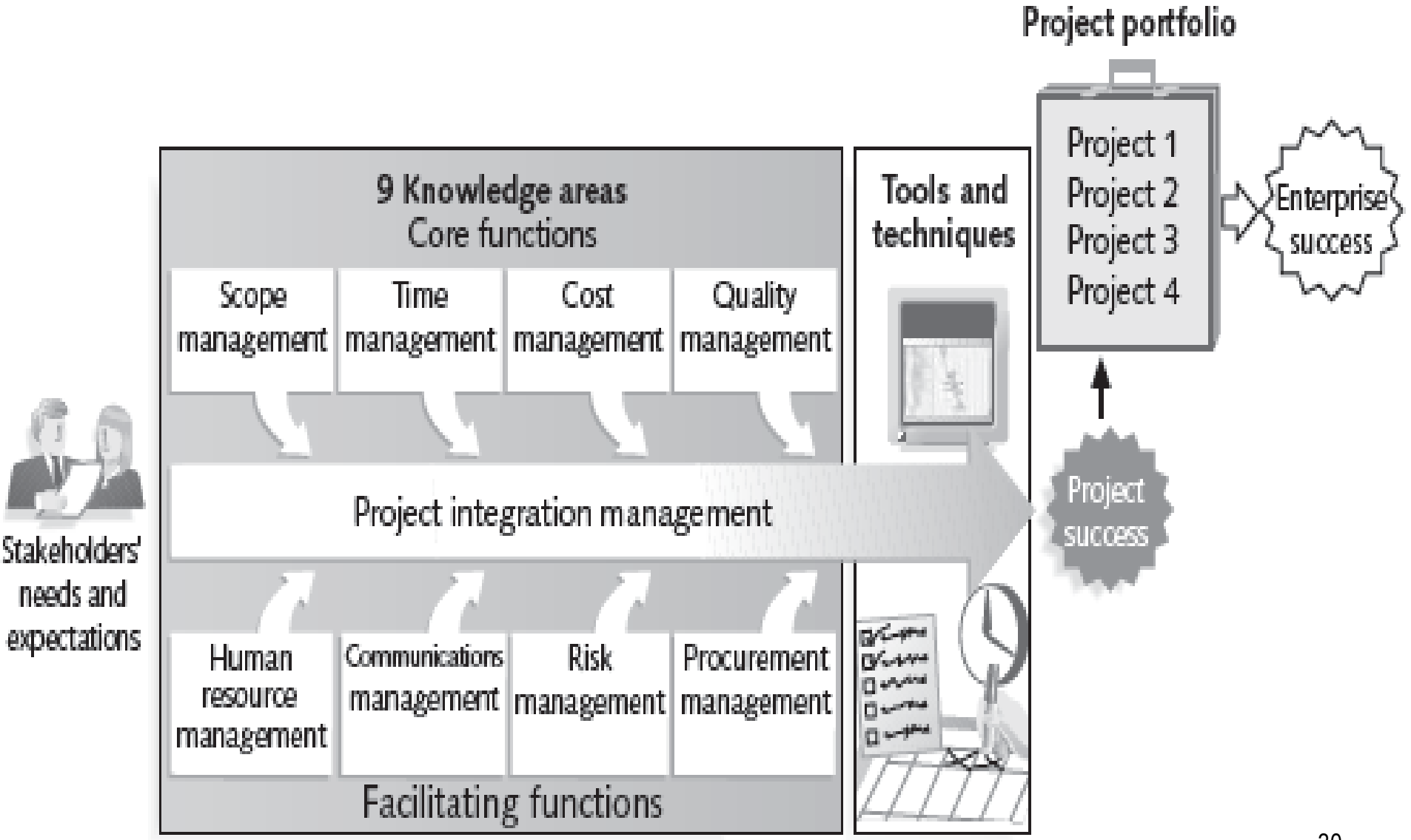
6. **Realistic schedule**
7. **Good stakeholder relationships**
8. **Empowered project manager**
9. **Skilled and appropriate team members with defined roles and responsibilities**
10. **Availability of funding**

What makes this all work?

A good, solid professional project manager


LEAD
DON'T
FOLLOW!

The 9-Project Management Knowledge Area



Project Management Knowledge Area

1. **Project scope management** involves defining and managing all the work required to complete the project successfully.
2. **Project time management** includes estimating how long it will take to complete the work, developing an acceptable project schedule, and ensuring timely completion of the project.
3. **Project cost management** consists of preparing and managing the budget for the project.
4. **Project quality management** ensures that the project will satisfy the stated or implied needs for which it was undertaken.

Facilitating Knowledge Area

- The four facilitating knowledge areas of project management are human resource, communications, risk, and procurement management.
- These are called facilitating knowledge areas because they are the processes through which the project objectives are achieved..

Facilitating Knowledge Area

5. **Project human resource management** is concerned with making effective use of the people involved with the project.
6. **Project communications management** involves generating, collecting, disseminating, and storing project information.
7. **Project risk management** includes identifying, analyzing, and responding to risks related to the project.
8. **Project procurement management** involves acquiring or procuring goods and services for a project from outside the performing organization.

Project integration management

9. **Project integration management**, the ninth knowledge area, is an overarching function that affects and is affected by all of the other knowledge areas. Project managers must have knowledge and skills in all nine of these areas. This text includes an entire chapter on each of these knowledge areas because all of them are crucial to project success.

Project Management Tools and Techniques

- Thomas Carlyle, a famous historian and author, stated, **Man is a tool-using animal. Without tools he is nothing, with tools he is all.**
- As the world continues to become more complex, it is even more important for people to develop and use tools, especially for managing important projects..

10 most important skills and competencies for project managers

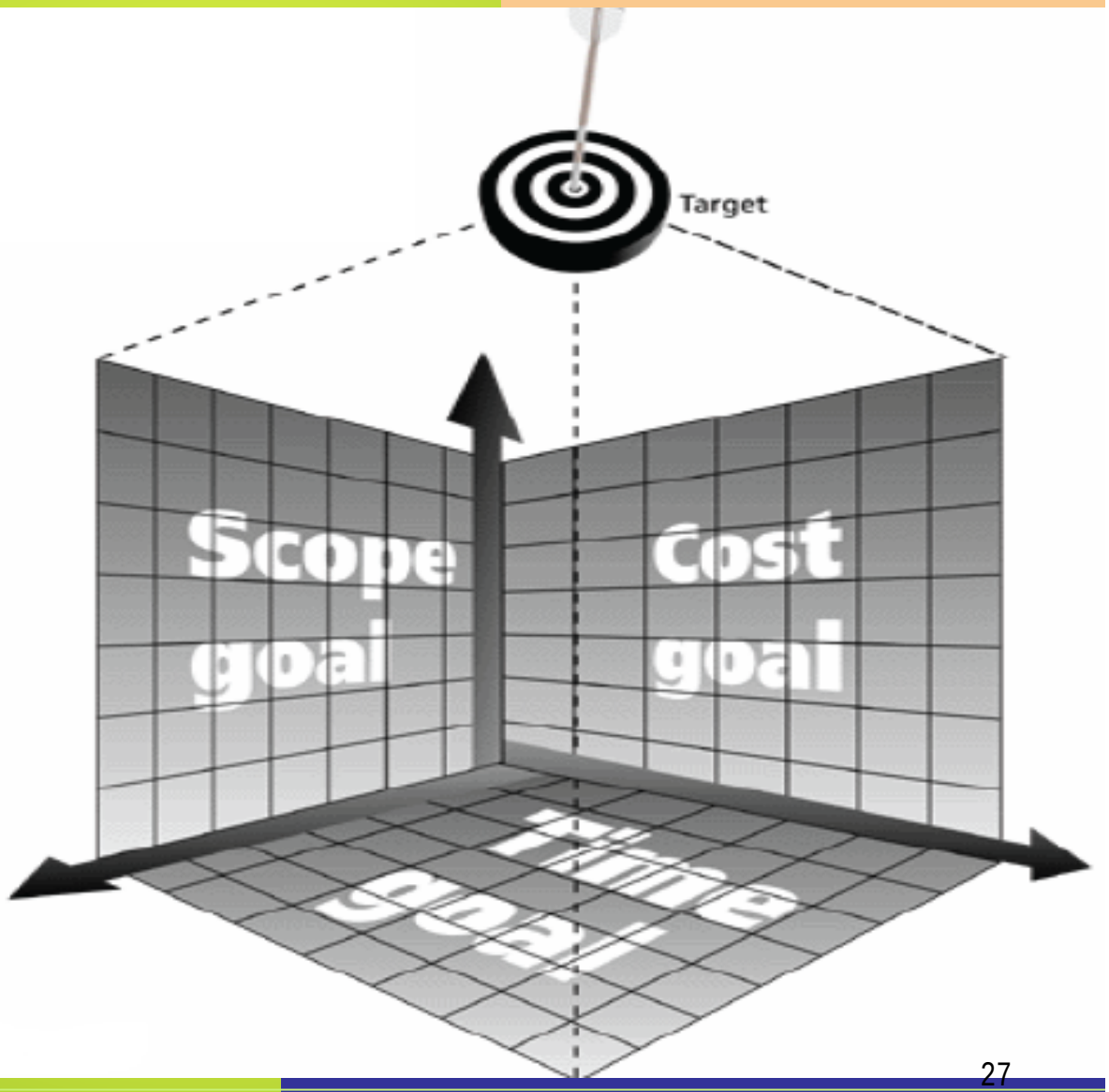
1. **People skills**
2. **Leadership**
3. **Listening**
4. **Integrity, ethical behavior, consistent**
5. **Strong at building trust**
6. **Verbal communication**
7. **Strong at building teams**
8. **Conflict resolution, conflict management**
9. **Critical thinking, problem solving**
10. **Understands, balances priorities**

PM Triple Constraints

Successful Software Project Management: satisfying 3 goals:

- **scope** 'requirements'
- **time**
- **cost**

- Think of quality !!



PM Triple Constraints

- Every project is constrained in different ways by its scope, time, and cost goals.
- These limitations are sometimes referred to in project management as the **triple constraint**.
- To create a successful project, a project manager must consider scope, time, and cost and balance these three often-competing goals.
- He or she must consider the following:

PM Triple Constraints

- ***Scope:***
  - What work will be done as part of the project?
  - What unique product, service, or result does the customer or sponsor expect from the project?
  - How will the scope be verified?
- ***Time:***
  - How long should it take to complete the project? What is the project schedule?
  - How will the team track actual schedule performance?
  - Who can approve changes to the schedule?
- ***Cost:***
  - What should it cost to complete the project? What is the project s budget?
  - How will costs be tracked? Who can authorize changes to the budget?

Example of Triple Constraints

An IT project having:

- Scope: Identify 10 potential IT projects (ending with a report & a presentation)
- Initial Time: 2 months
- Initial Cost: $ 80,000

Example of Triple Constraints

Make trade-offs between Scope, Time & Cost

- Increase budget to meet scope & time goals
  - Large scope and fast execution require higher budget
- Reduce scope to meet time & cost goals
  - Limited time and cost necessitates less scope
- Increase time to meet scope & cost goals
  - low productive resources need more time but cost less

Quality and Triple Constraints

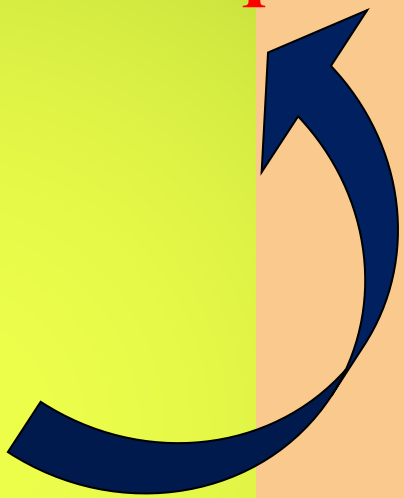
The Triple Constraint interrelate the project's triple of scope, time, and cost

What about project QUALITY!!

- Quality is a key factor in projects
- You will not accept an IT system that satisfies the triple constraint (of scope, time, and cost), **BUT is not** at the expected quality level

Quality and Triple Constraints

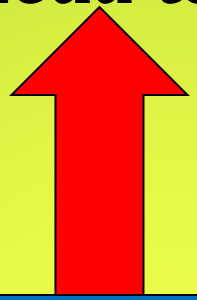
Time constraint may lead to **less quality** because of ?



- less time for analysis,
- less time for planning,
- less time for reviewing,
- less time for checking,
- less time for monitoring,
- less time for control,
- Ignoring some customer requirements, …

Quality and Triple Constraints

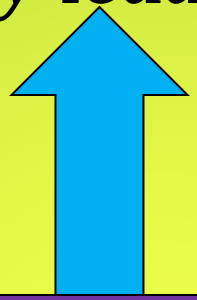
***Cost constraint** may lead to **less quality** because of*



- Hiring less skilled people,
- Getting less quality resources (Hardware,Networks)
- Ignoring some customer requirements

Quality and Triple Constraints

***Scope limitations** may lead to **less quality** because of*



- Satisfying Time & Cost constrains will lead to the previously shown less quality
- In addition, Scope limitations may lead to Ignore some customer requirements

Quality & The Quadruple constraint

Quality is a key factor for projects success

We may add Quality as a 4th constraint:

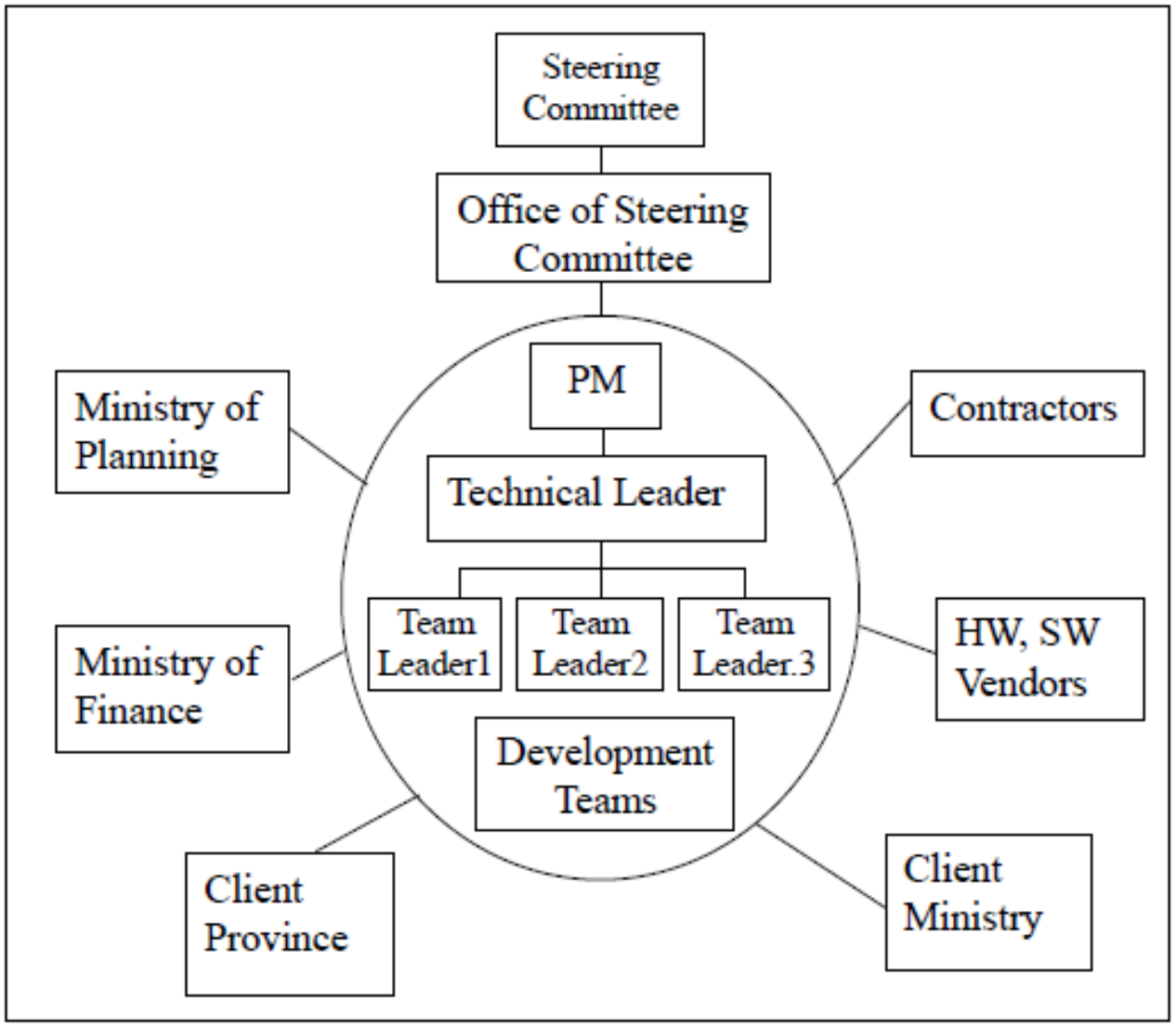
The **Quadruple** constraint =

The **Triple** constraint + **Quality** constraint

Project Stakeholders

- **Stakeholders** are the people involved in or affected by project activities and include the project sponsor, project team, support staff, customers, users, suppliers, and even opponents of the project.
- These stakeholders often have very different needs and expectations.

Project Stakeholders



The IT Project Team must know the function of each of the following:

- **Program Manager**
- **Project Manager**
- **Technical Leader**
- **Team Leader**
- **Development Teams**

Project Stakeholders

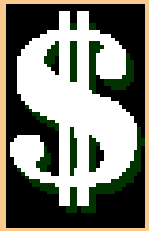
For example, building a new house is a well-known example of a project.

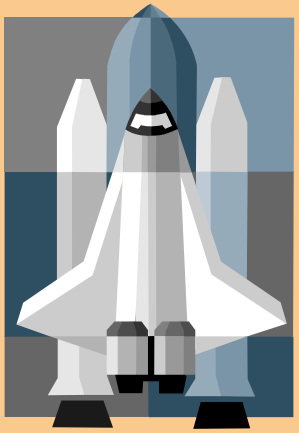
- There are several stakeholders involved in a home construction project.
- The project sponsors would be the potential new homeowners.
- The project manager in this example would normally be the general contractor responsible for building the house.
- The project team for building the house would include several construction
- workers, electricians, carpenters, and so on
- Building a house requires many suppliers

Project Risk

- What is Risk? is “the possibility of loss/failure or injury”
- Project risk involves understanding potential problems that might occur on the project and how they might impede project success

Why take risks?

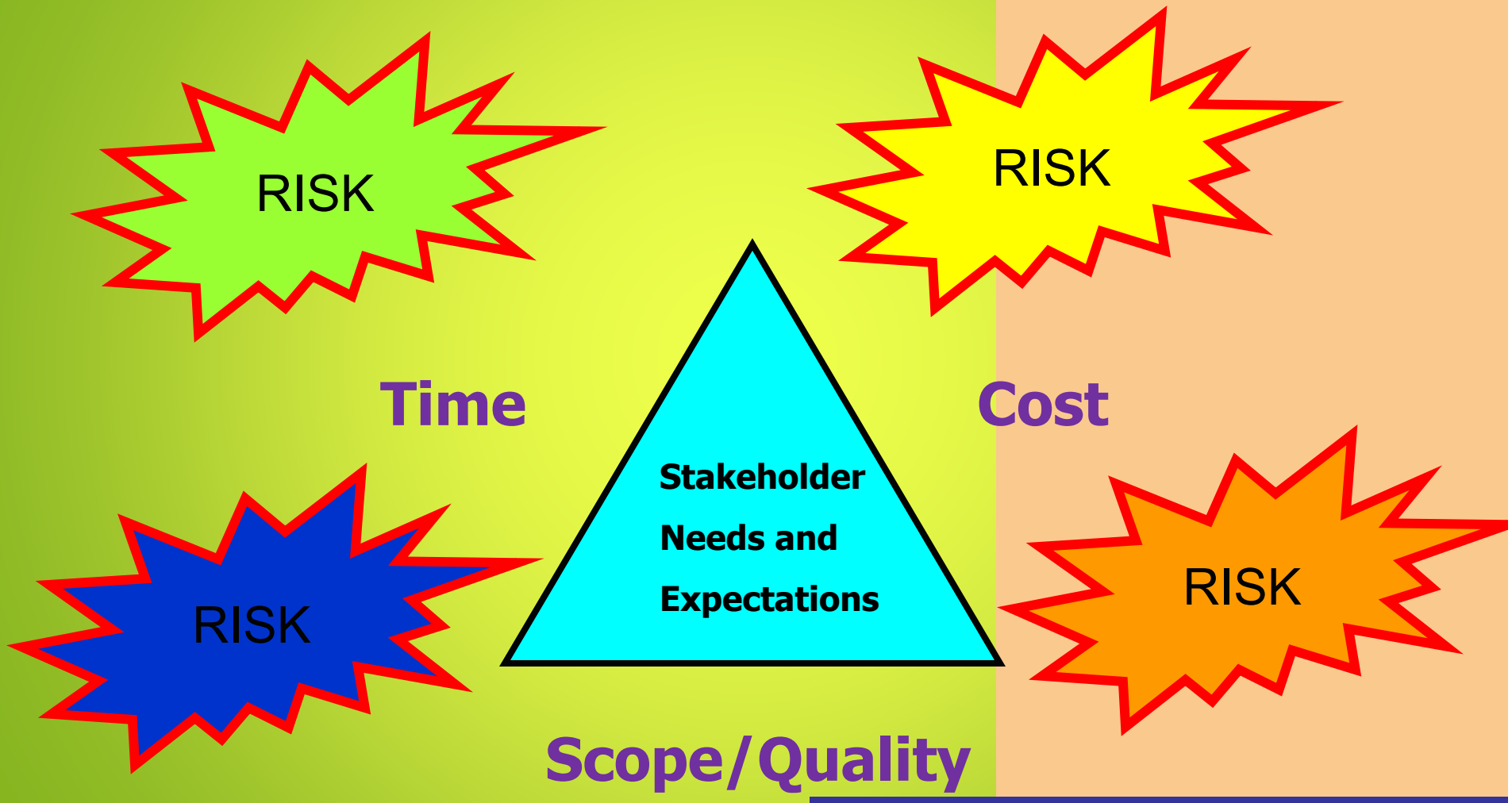




Try to balance risks and opportunities

Risks **Opportunities**

Risks and Objectives



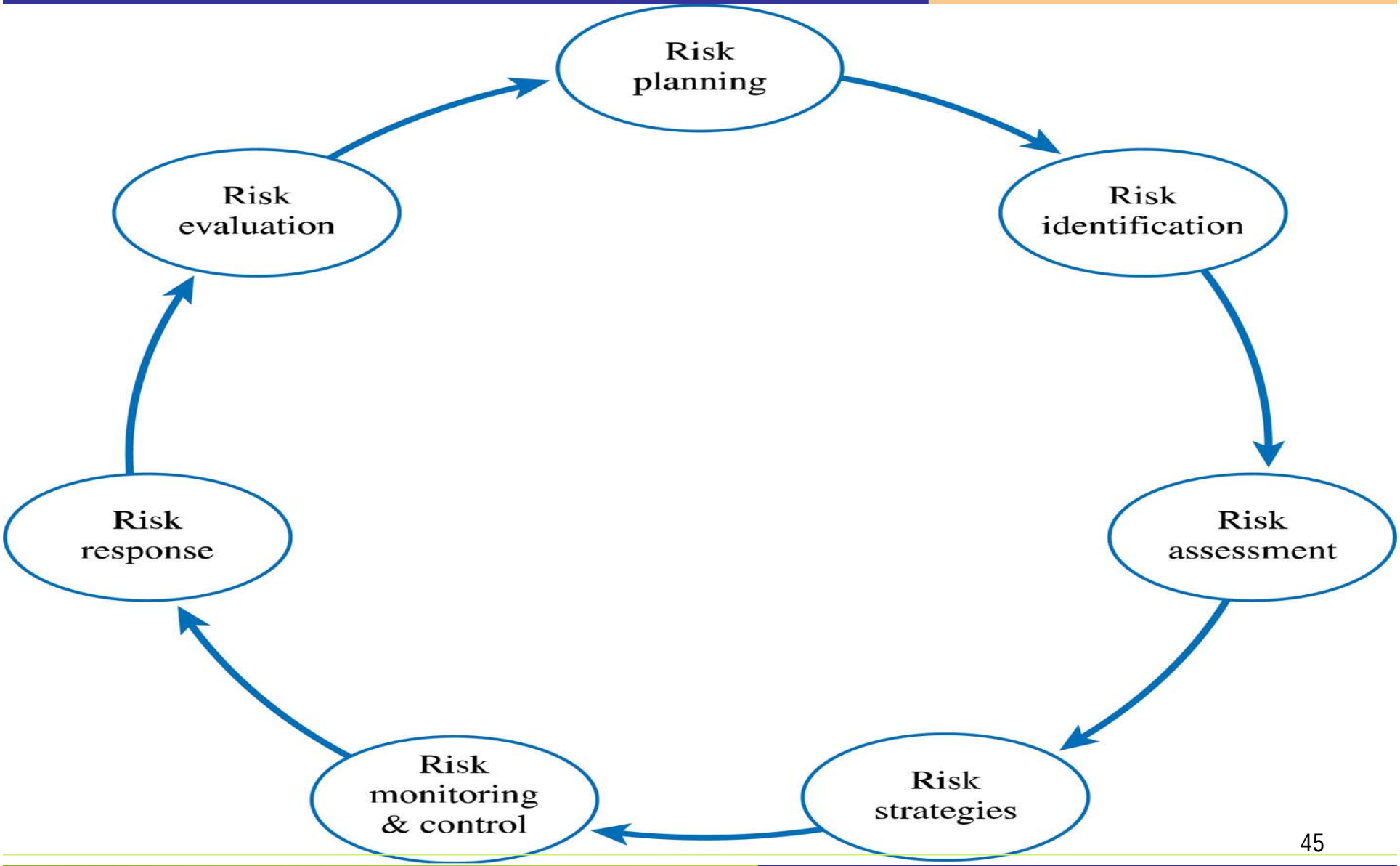
Why Care About IT-related Risk?

- **Enterprises are dependent on automation and integration.**
- **Need to cross IT silos of risk management.**
- **Important to integrate with existing levels of risk management practices.**

Manage and Capitalize on Business Risk

- **Enterprises achieve return by taking risks.**
- **Some try to eliminate the very risks that drive profit.**
- **Guidance was needed on how to *manage* risk effectively.**

IT Project Risk Management Processes



Managing project risk

- **Project risk management is the art and science of *identifying*, *assigning*, and *responding* to risk throughout the life of a project and in the best interests of meeting project objectives**
- **Risk management is often overlooked, but it can help improve project success by helping select good projects, determining project scope, and developing realistic estimates**

Risk types

- **Market risk: Will the new product be useful to the organization or marketable to others? Will users accept and use the product or service?**
- **Financial risk: Can the organization afford to undertake the project? Is this project the best way to use the company's financial resources?**
- **Technology risk: Is the project technically feasible? Could the technology be obsolete before a useful product can be produced?**

Potential risk areas

Knowledge Area	Risk Conditions
Integration	Inadequate planning; poor resource allocation; poor integration management; lack of post-project review
Scope	Poor definition of scope or work packages; incomplete definition of quality requirements; inadequate scope control
Time	Errors in estimating time or resource availability; poor allocation and management of float; early release of competitive products
Cost	Estimating errors; inadequate productivity, cost, change, or contingency control; poor maintenance, security, purchasing, etc.
Quality	Poor attitude toward quality; substandard design/materials/workmanship; inadequate quality assurance program
Human Resources	Poor conflict management; poor project organization and definition of responsibilities; absence of leadership
Communications	Carelessness in planning or communicating; lack of consultation with key stakeholders
Risk	Ignoring risk; unclear assignment of risk; poor insurance management
Procurement	Unenforceable conditions or contract clauses; adversarial relations

Response to risk

1. Risk avoidance: eliminating a specific threat or risk, usually by eliminating its causes
2. Risk acceptance: accepting the consequences should a risk occur
3. Risk mitigation: reducing the impact of a risk event by reducing the probability of its occurrence

Risk Management Tools For Identifying IT Project Risks

- **Learning Cycles**
- **Brainstorming**
- **Nominal Group Technique**
- **Delphi Technique**
- **Checklists**
- **SWOT Analysis**
- **Cause & Effect (Fishbone/Ishikawa)**
- **Past Projects**

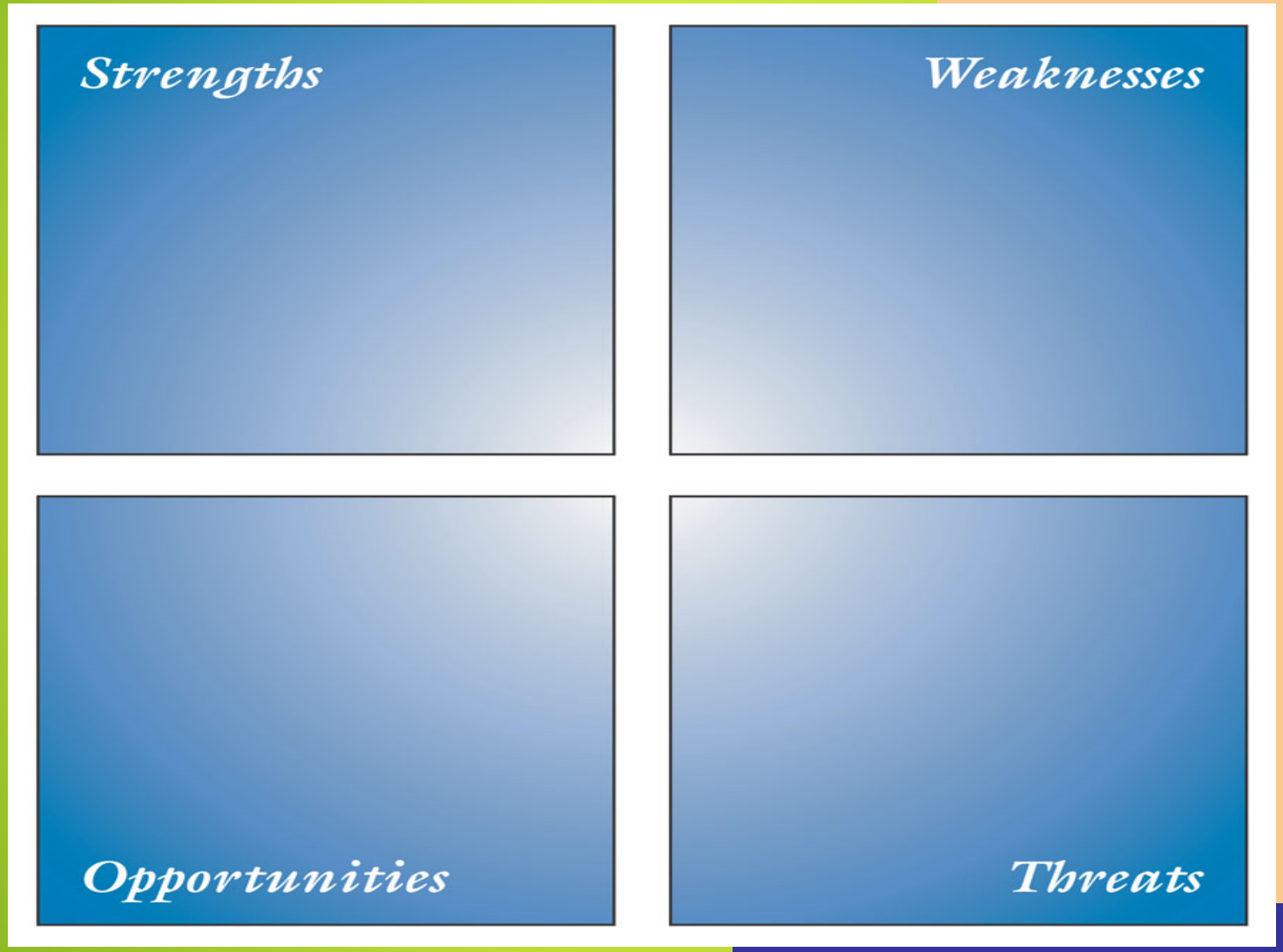
Nominal Group Technique (NGT)

- Each individual silently writes her or his ideas on a piece of paper
- Each idea is then written on a board or flip chart one at a time in a round-robin fashion until each individual has listed all of his or her ideas.
- The group then discusses and clarifies each of the ideas.
- Each individual then silently ranks and prioritizes the ideas.
- The group then discusses the rankings and priorities of the ideas.
- Each individual ranks and prioritizes the ideas again.
- The rankings and prioritizations are then summarized for the group.

Check List

- ❑ Funding for the project has been secured
- ❑ Funding for the project is sufficient
- ❑ Funding for the project has been approved by senior management
- ❑ The project team has the requisite skills to complete the project
- ❑ The project has adequate manpower to complete the project
- ❑ The project charter and project plan have been approved by senior management or the project sponsor
- ❑ The project's goal is realistic and achievable
- ❑ The project's schedule is realistic and achievable
- ❑ The project's scope has been clearly defined
- ❑ Processes for scope changes have been clearly defined

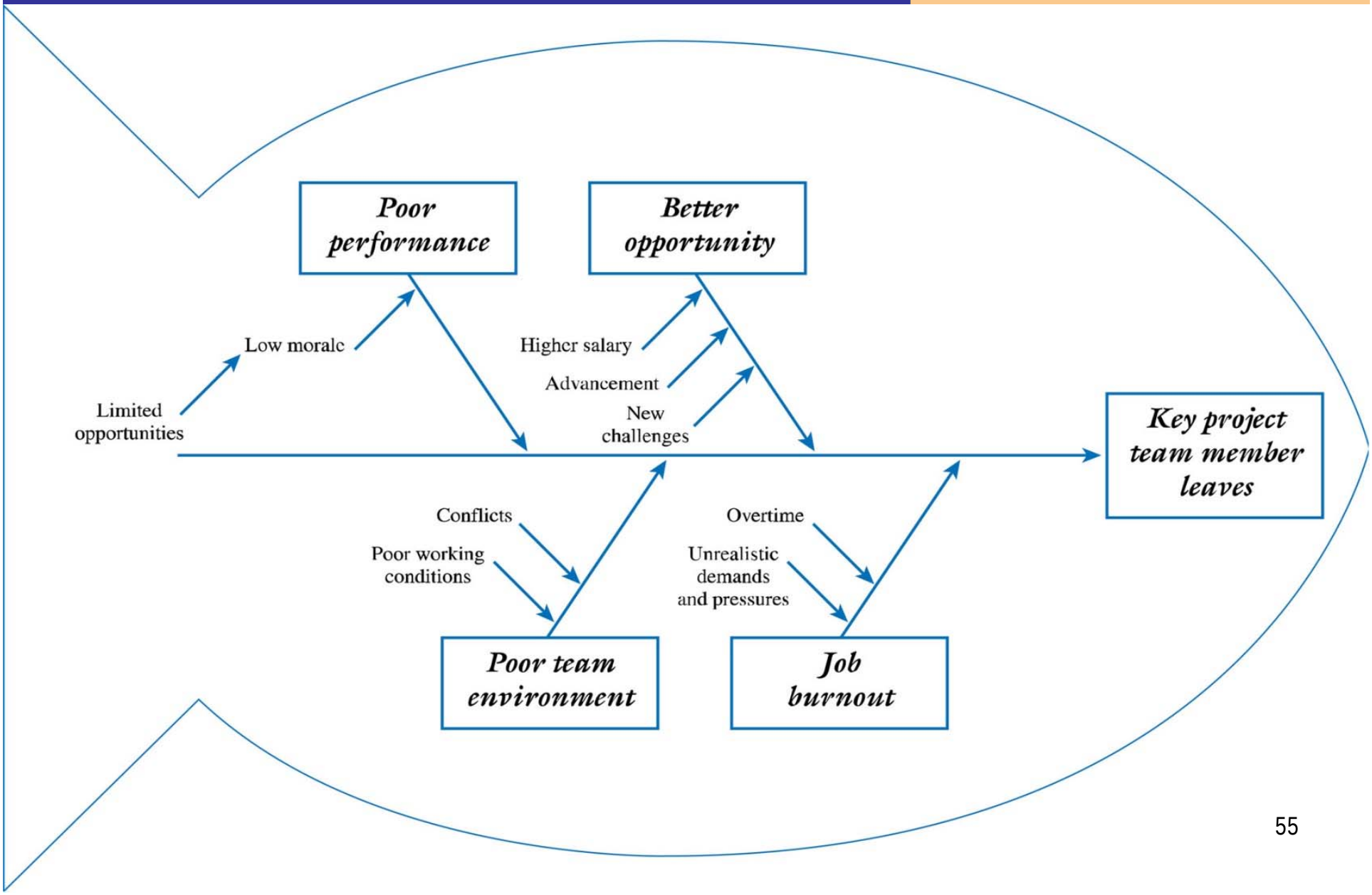
SWOT Analysis



Cause and Effect

- **Identify the risk in terms of a threat or opportunity.**
- **Identify the main factors that can cause the risk to occur.**
- **Identify detailed factors for each of the main factors.**
- **Continue refining the diagram until satisfied that the diagram is complete.**

Cause and Effect Diagram



Delphi Study results

The main risk factors areas are:

- **Corporate Environment**
- **Sponsorship/Owners**
- **Relationship Management**
- **Project Management**
- **Scope**
- **Requirementts**
- **Funding**
- **Personnel**
- **Staffing**
- **Technology**
- **External Dependencies**
- **Planning**
- **Scheduling**
- **Development Process**

The project manager makes things happen!

What is a Project Manager?

Project Manager is a person:

- **Ultimately responsible for the Project's Success**
- **Plan and Act**
- **Focus on the project's end**
- **Be a manager & leader**

Seven Traits of Good Project Managers

- **Trait 1**
  - Enthusiasm for the project
- **Trait 2**
  - Ability to manage change effectively
- **Trait 3**
  - A tolerant attitude toward ambiguity
- **Trait 4**
  - Team – building and negotiating skills

Seven Traits of Good Project Managers

- **Trait 5**
  - A customer-first orientation
- **Trait 6**
  - Adherence to the priorities of business
- **Trait 7**
  - Knowledge of the industry or technology

Challenges of Project Management

Keys to Successful Projects

Things you already know but let's review anyway

PLAN

PLAN

- Identify all stakeholders up front!
- Develop the project plan before starting the project
- Establish communications protocols

PLAN

- Define your requirements in detail
- Establish a speedy conflict resolution process
- Make contingency plans
- Plan a reasonable roll-out schedule

LEAD

LEAD

- Ensure strong, committed management support
- Connect the business goals to the IT project
- Assign an experienced project manager

LEAD

- Establish clearly defined directions
- Be proactive
- Give IT and program a seat at the table

LEAD

- Set clear performance expectations
- Ask for technical assistance
- Do not start roll-out until pilot is complete!

COMMUNICATE

Communicate

- Communicate objectives frequently
- Recognize different perspectives
- Check assumptions frequently

Communicate

- Manage expectations
- Share success and broadcast achievements
- Invite feedback

MANAGE

Manage

- Ensure the system design reflects sound planning
- Hold the reins on irrational exuberance!
- (Ensure the system design reflects the system you need and can afford at this point in time)

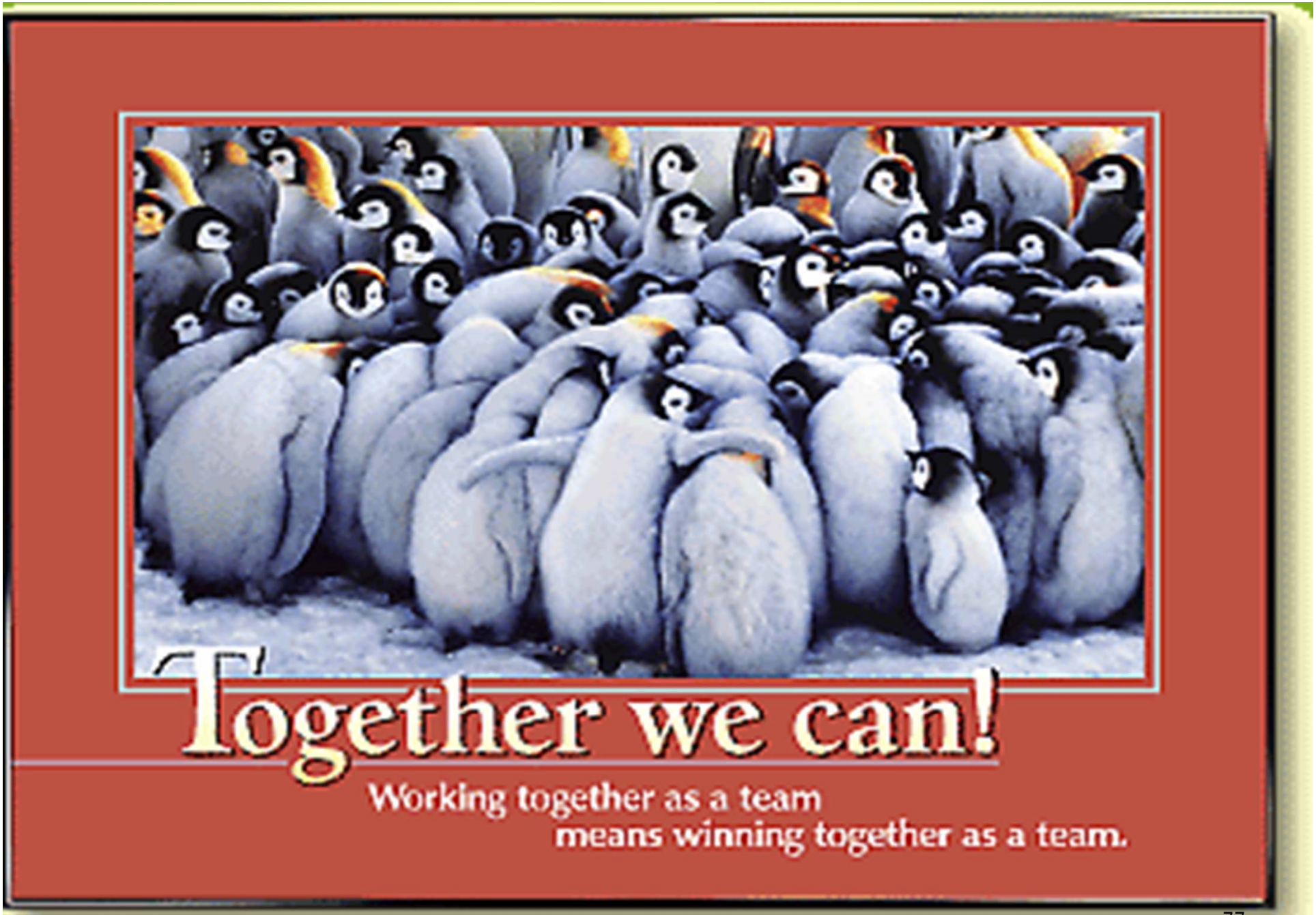
Manage

- Train all staff in a timely fashion
- Make extensive testing a priority!
- Make the most of pilot testing!

CHALLENGES

I Expected Times Like This - But I Never Thought
They'd Be So Bad, So Long, and So Frequent.

www.despair.com


Together we can!
Working together as a team
means winning together as a team.

A good project team can be the key to a successful project!

Think Big, Think Fast, Think Ahead

Summary

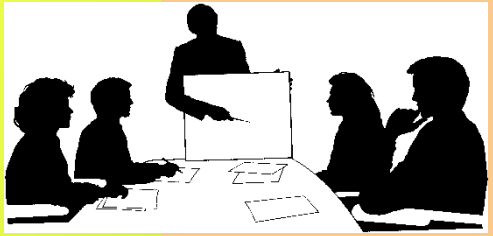
Who's a Project Stakeholder?

Summary

The Project Communications Plan:

- Contacts Listing

- Meetings Listing



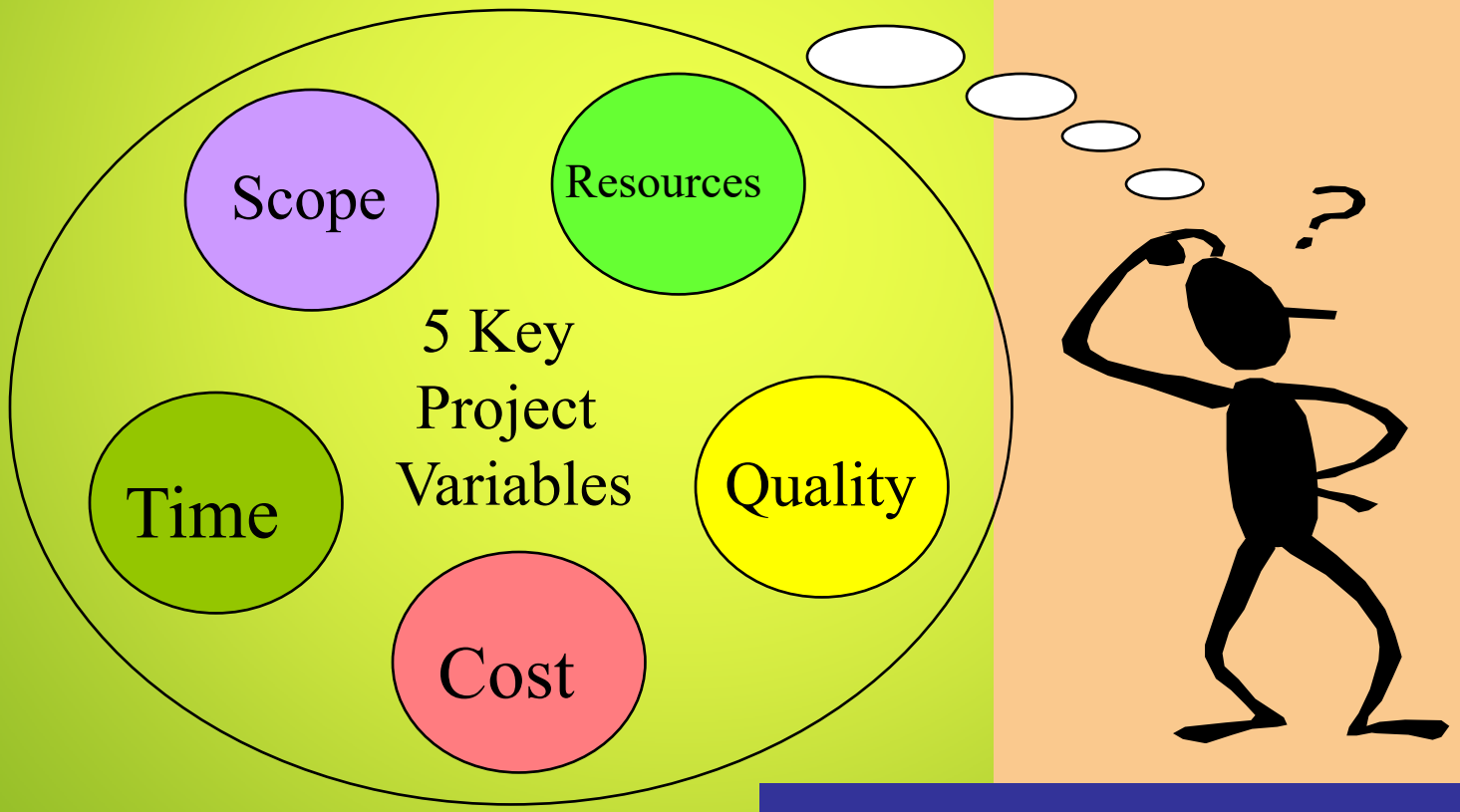
- Reports Listing

Summary

Project Success Factors

Summary

The Five (5) Project Variables




STOP

End of Chapter1

Thank You