

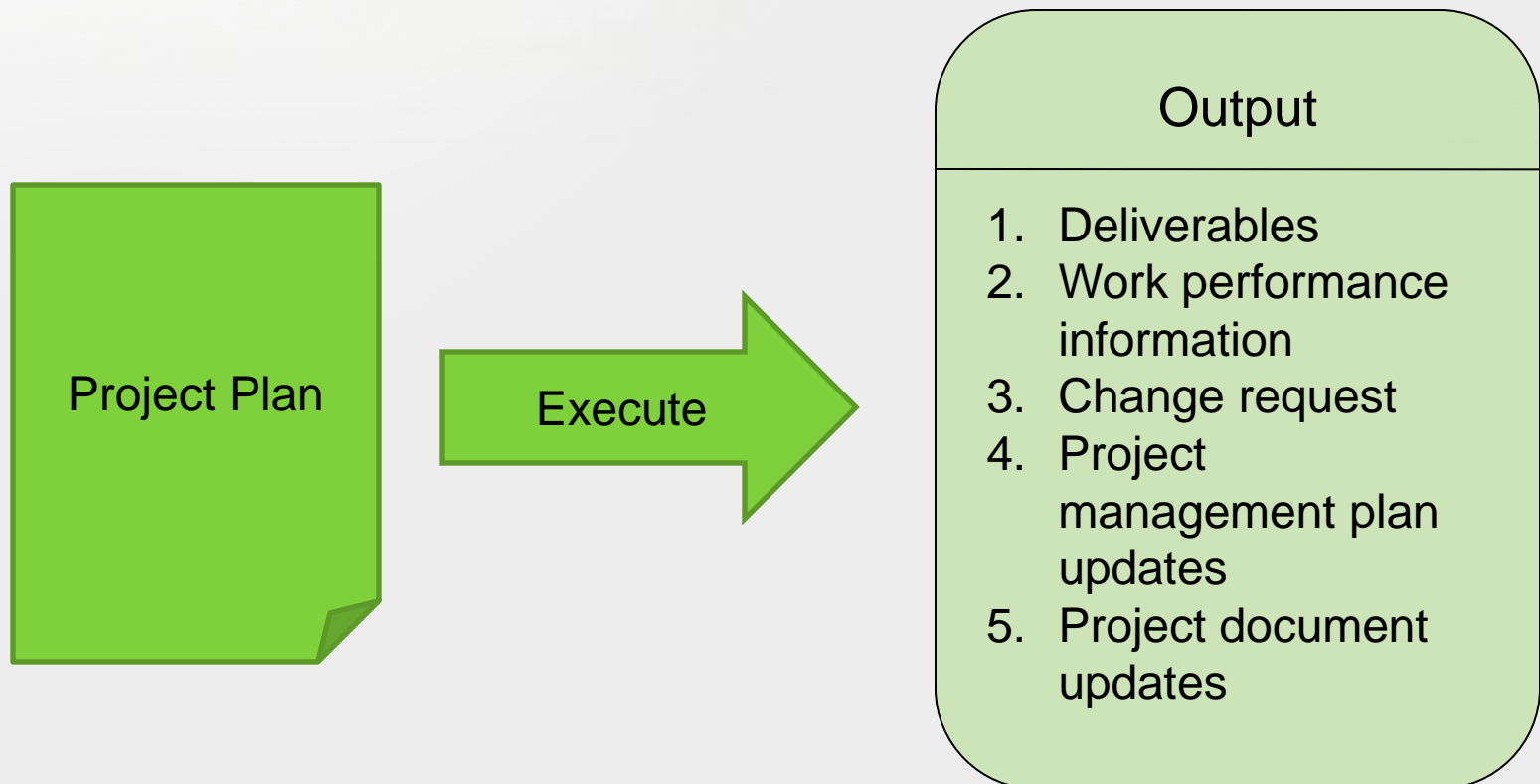
CHƯƠNG 3. THỰC THI VÀ ĐIỀU HÀNH DỰ ÁN (5 LT)

1. Khởi tạo dự án
2. Quản lý phạm vi
3. Xây dựng đội ngũ thực thi và quản lý nhân sự
4. Quản lý giao tiếp/truyền thông
5. Quản lý lợi nhuận
6. Khoán thực thi dự án (Procurement)
7. Thuê thực thi dự án (Outsourcing)
8. Đảm bảo hoàn tất dự án

Project Executing

✿ Direct and Manage Project Execution

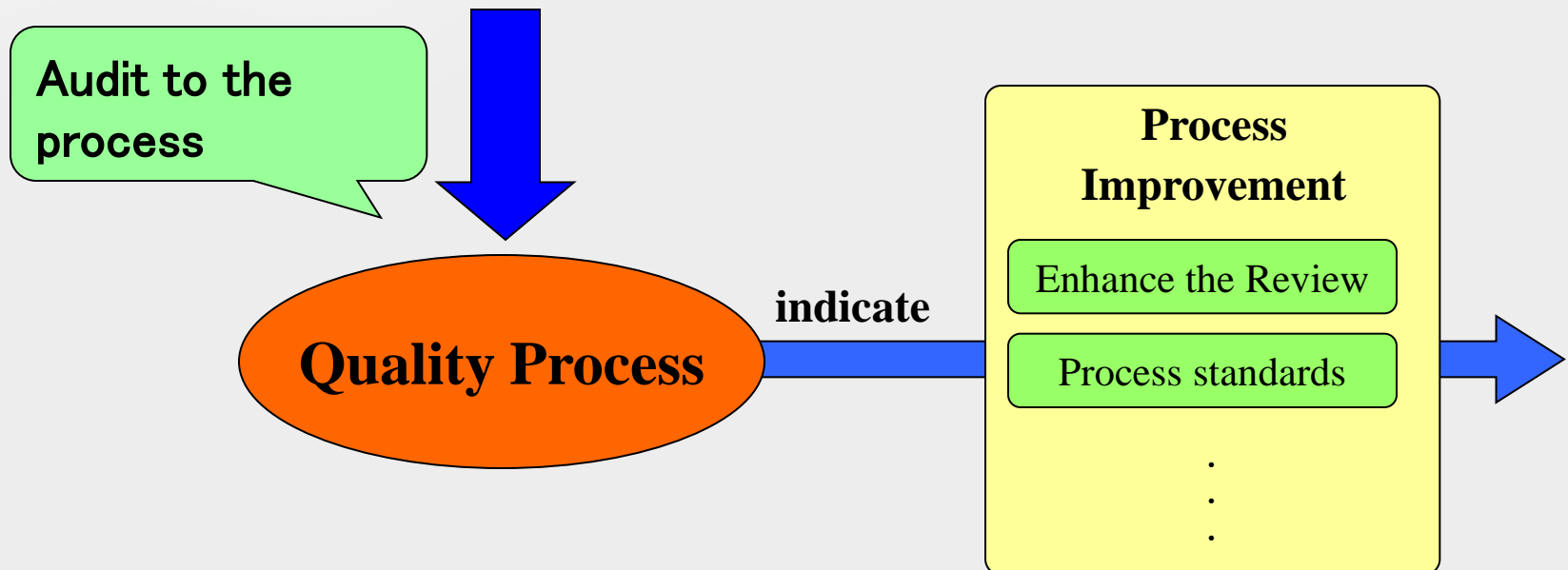
- ✿ Perform the work defined in the project management plan to achieve the project's objectives.



Project Executing

✿ Perform Quality Assurance

- ✿ High quality output will come from good process.
- ✿ Perform quality assurance use audit to make sure the planned process is executed appropriately.



1. Khởi tạo dự án

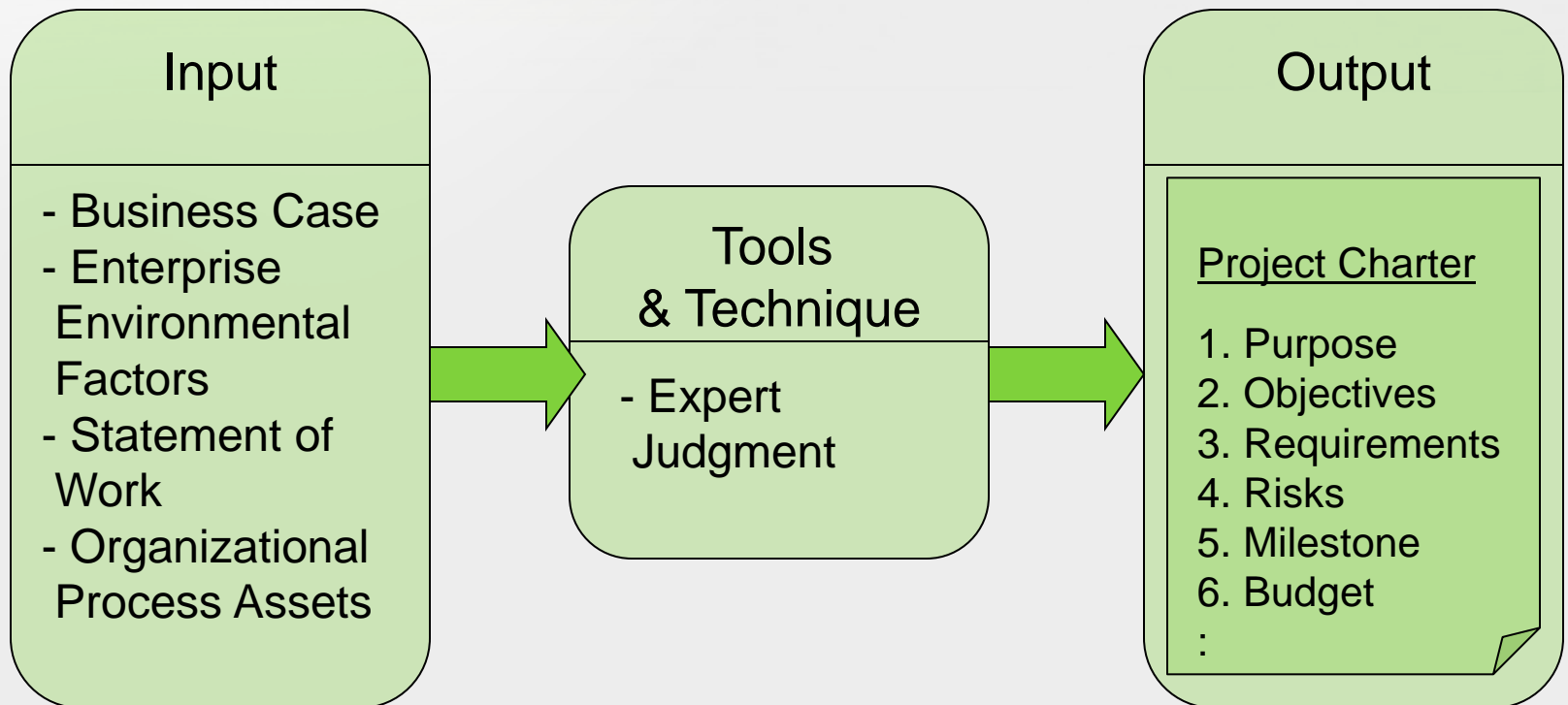
1. Definition
2. Goals
3. Identify stakeholders

1.1. What is the project initiation?

- ✿ Project Initiation is the first process group in project.
- ✿ You need to understand project goal.
- ✿ You may need to convince stakeholders.
 - ✿ So, Project Charter is needed.
- ✿ You need to communicate well with stakeholders of the project.
 - ✿ Good communication depend on the perception through shared experiences.

Project Initiation

- ✿ Project Initiation is the process to be authorized officially at the beginning of a new project.



1.2. Goals

- ✿ Project has several goals.
 - ✿ Project is one of the measure of business goals.
It is needed to understand the relationship between goal and measure.
 - ✿ Please ask these questions as follows;
 - ✿ “What is the final goal of this project?”
 - ✿ “What is the objectives in this project?”
 - ✿ “What for?”
 - ✿ The best way to get these information is to go to client office and communicate directly.
- Make sure final project goal / purpose

Characteristics of Effective Goals

- ✿ Goals should be specific and written
- ✿ Goals should be quantitative not qualitative
- ✿ Goals should be challenging yet achievable
- ✿ The set of goals should be mutually reinforcing
- ✿ Goals should focus on both ends and means
- ✿ Goals should be time bound

→ Goals should be SMART

- ✿ Specific
- ✿ Measurable
- ✿ Attainable...but Challenging
- ✿ Results Oriented
- ✿ Time bound

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- ✚ →Goals should be SMART
 - ✚ Specific
 - ✚ Measurable
 - ✚ Attainable...but Challenging
 - ✚ Results Oriented
 - ✚ Time bound
- ✚ Example : If your supervisor asked you as follows, how do you organize these goals?
 - ✚ "Develop a new order-receiving and delivery system to achieve these goals."
 - ✚ **improve of customer satisfaction**
 - ✚ **speed up the operational process**
 - ✚ **make associates skilled up**
 - ✚ **satisfy the QCD (Quality, Cost, Delivery)**
 - ✚ **raise profit margin**
 - ✚ **reduce customer churn**

Exercise

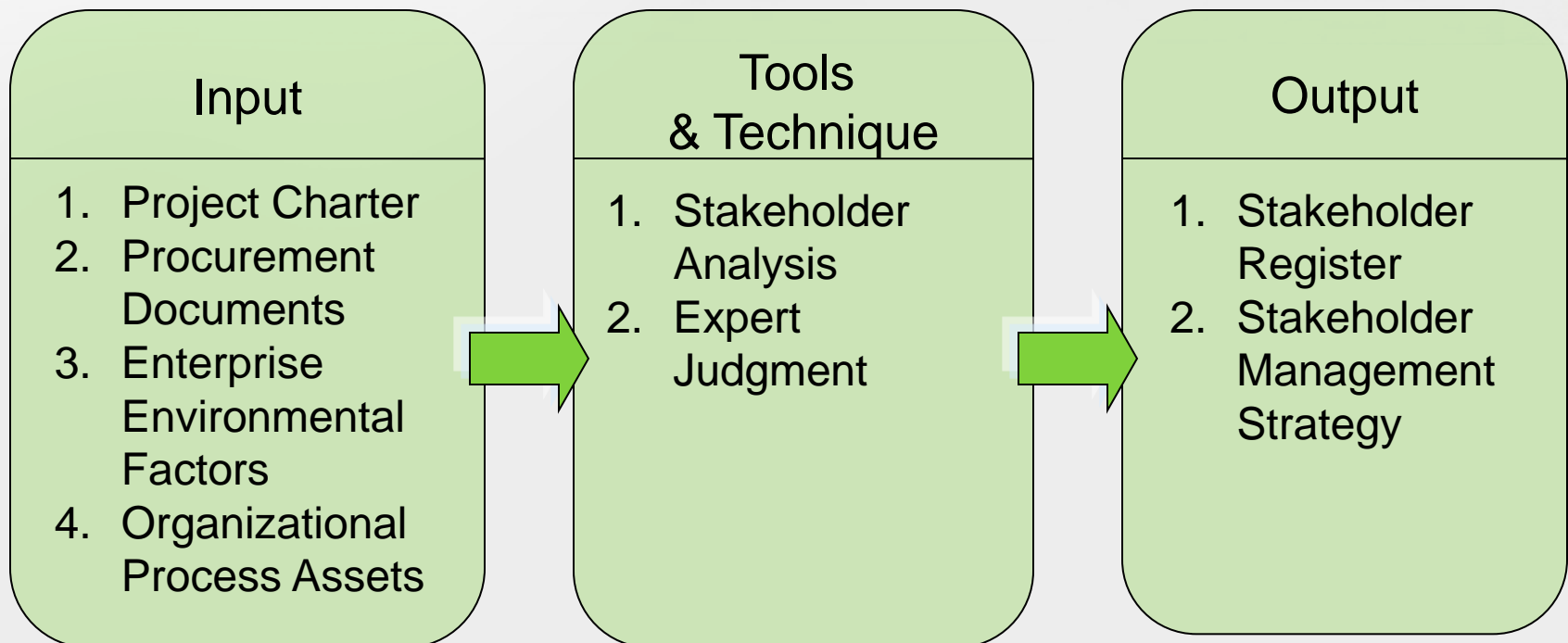
- ✿ If your supervisor asked you as follows, how do you organize these goals?

"Develop a new order-receiving and delivery system to achieve these goals."

- ✿ improve of customer satisfaction
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- ✿ make associates skilled up
- ✿ satisfy the QCD (Quality, Cost, Delivery)
- ✿ raise profit margin
- ✿ reduce customer churn

1.3. Identify Stakeholders

- ✚ Identify all people and organizations impacted by the project, and document relevant information regarding their interests, involvement, and impact on project success.



Cf. Additional point

- ✿ Recognize constraint conditions
- ✿ Constraint conditions restrict both inputs and processes
- ✿ Identify constraint conditions gives you;
 - ✿ Policy of the project
 - ✿ Creativity
 - ✿ Priority
 - ✿ Negotiation power
 - ✿ Customer satisfaction

2. Quản lý phạm vi

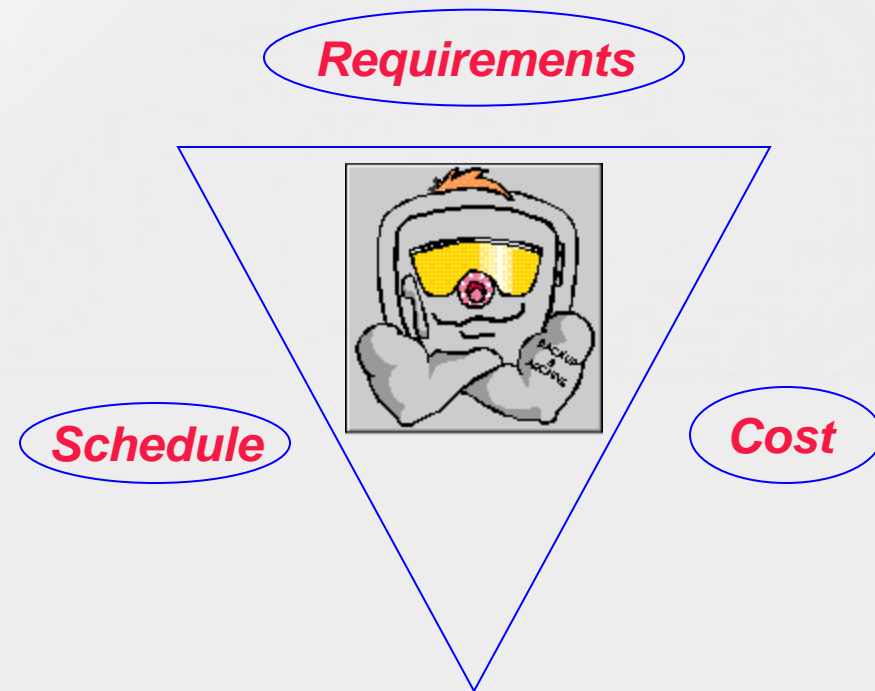
Scope change control

✚ Change:

- ✚ bad but unavoidable
- ✚ Impacts a project's triple constraints:
 - Requirements
 - Schedule
 - Cost
- ✚ Can result from scope creep when a baseline is not defined comprehensively
- ✚ Can relate to either the work content or the management of the project

✚ Many projects fail due to poor scope management:

- ✚ A large number of small scope changes do the damage, rather than the big, obvious ones.



→ The successful Project Manager has learned that rigorous scope control is essential to deliver projects on time and on budget.

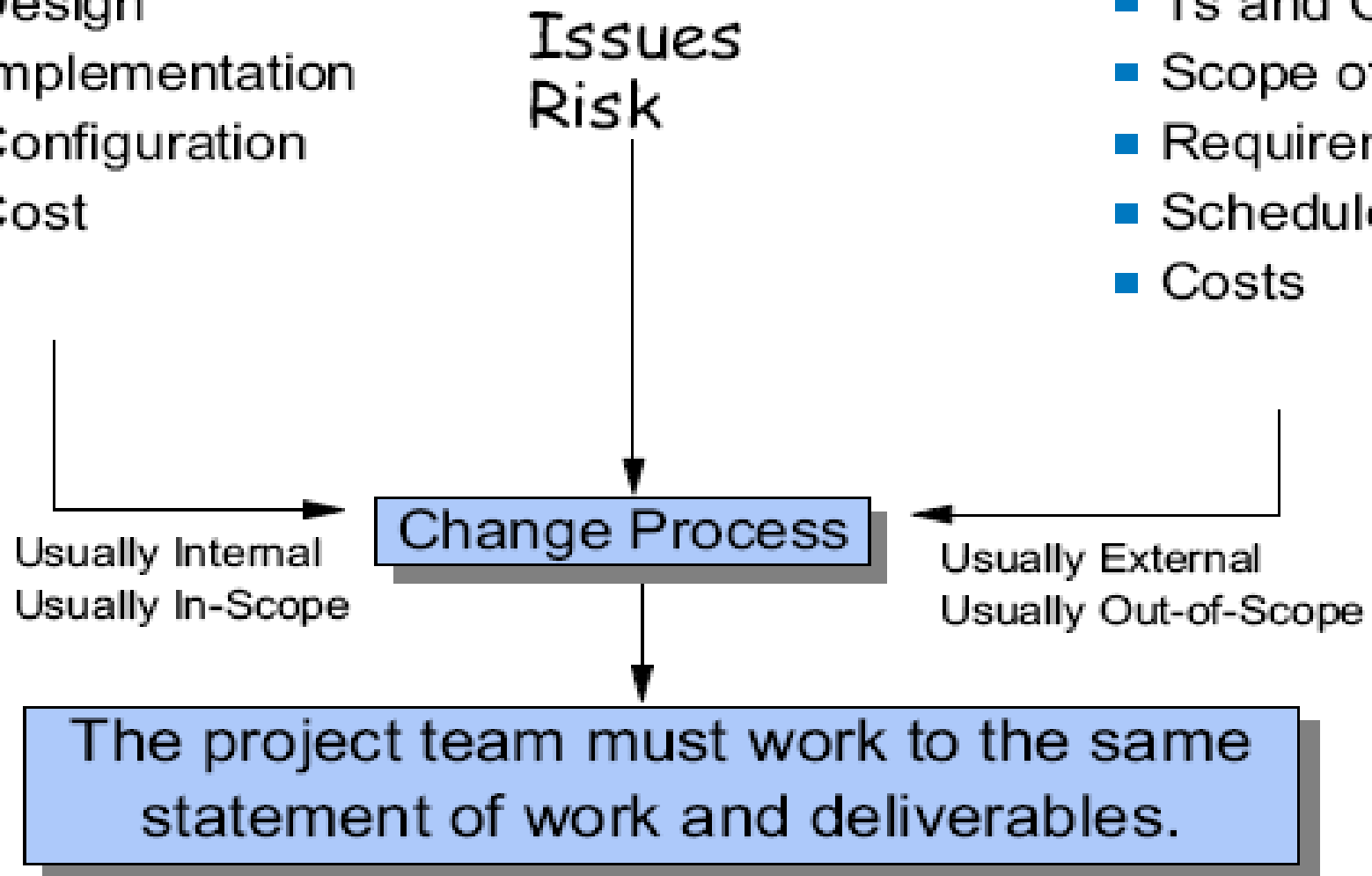
Origins of Change

■ Internal

- Design
- Implementation
- Configuration
- Cost

■ External

- Ts and Cs
- Scope of work
- Requirements
- Schedule
- Costs

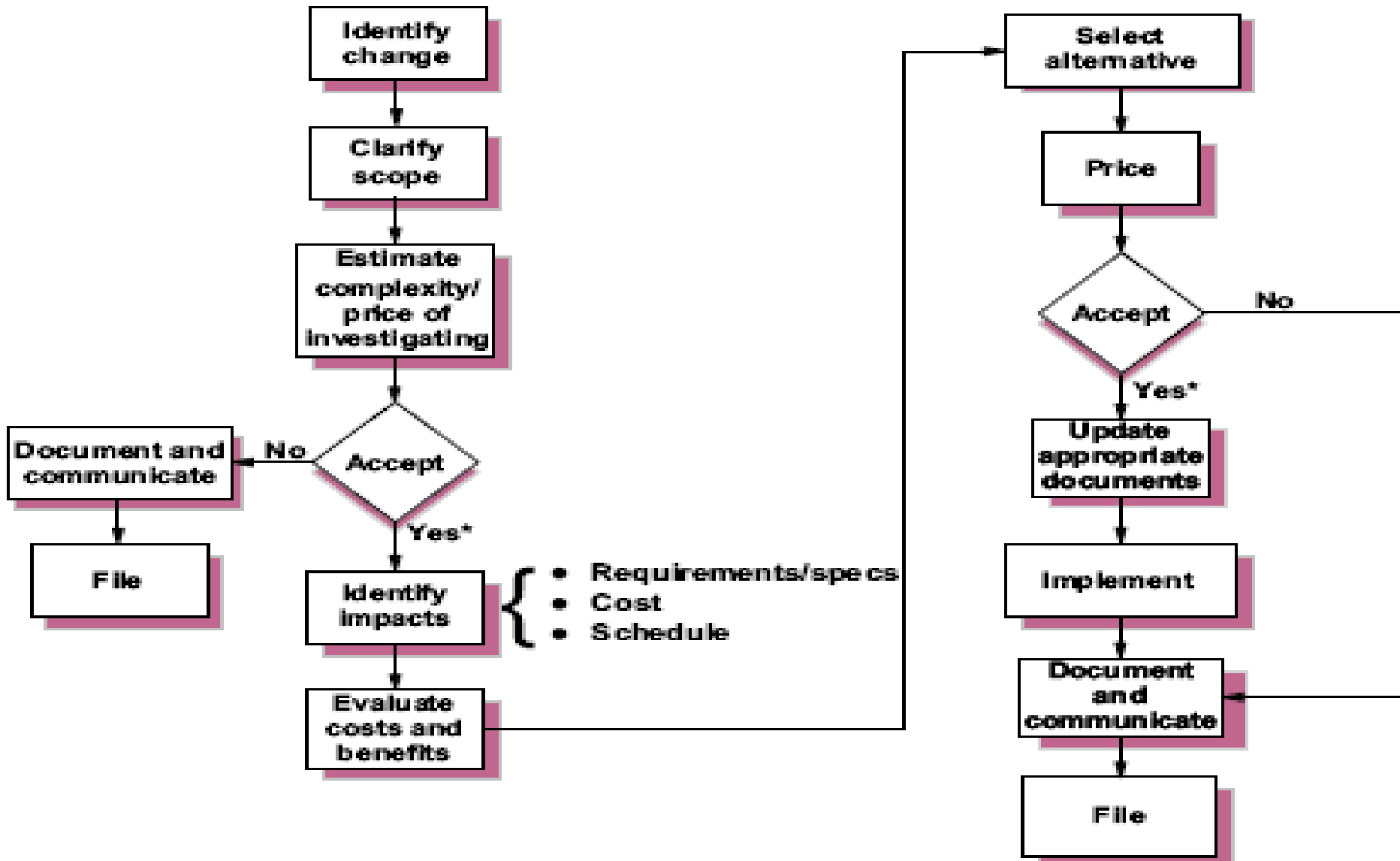


Change Request Form

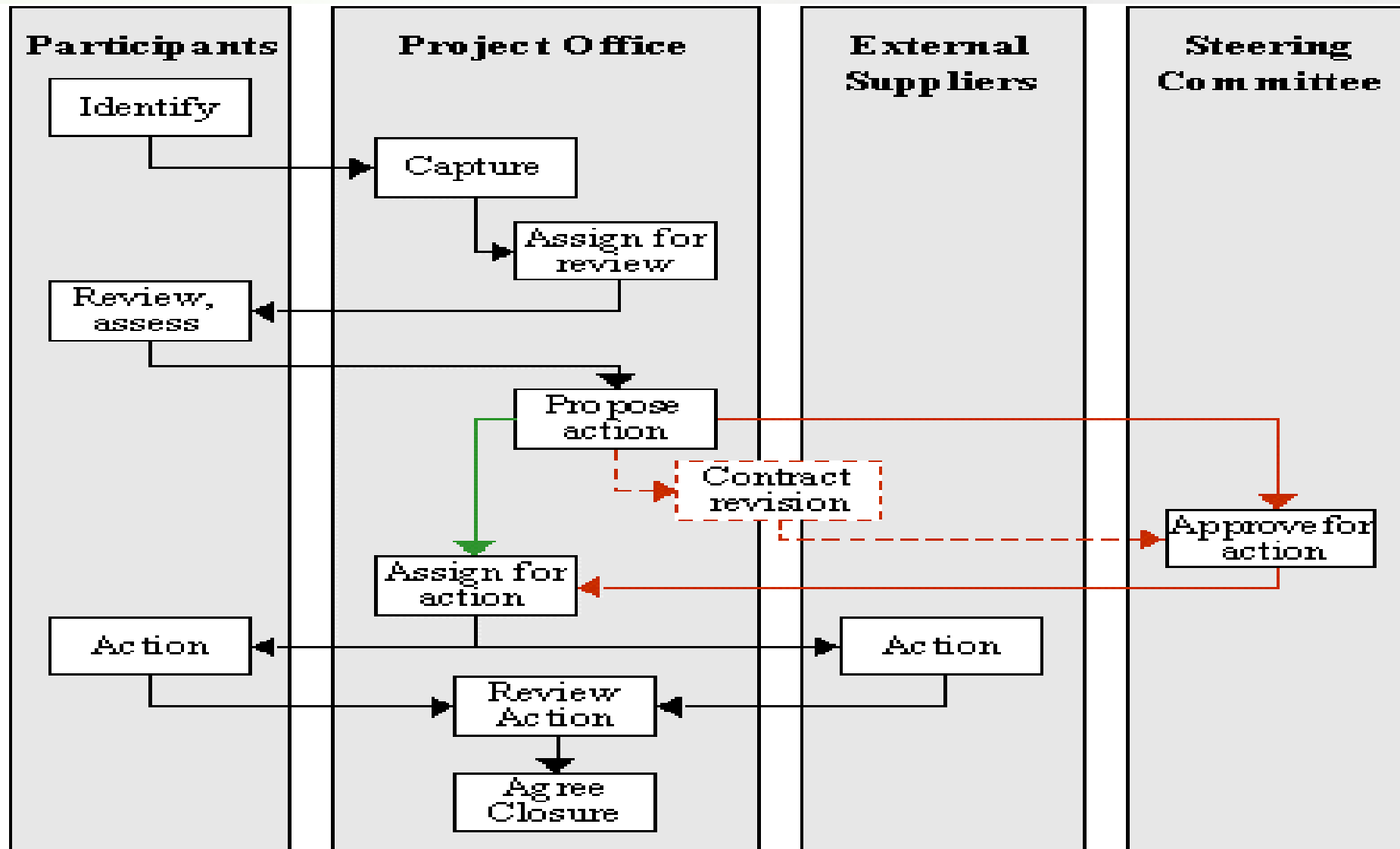
- Change request number
- Date of the change request
- **Name of the person requesting the change**
- **Description of the change**
- Estimate of the price of investigation
- Statement of the change's effect on the project

- **Estimate of the cost of the change**
 - Time limitation on investigation
- Signature of the authorized representatives
- Time limitation on implementing the change request
 - **Authorization to proceed**
 - **Investigation**
 - Implementation
 - Effect on related projects

Integrated Change Control Process



Example: Scope and Change Control Process



Key Messages

- Implement an appropriate integrated change control process
- Integrated change control is the responsibility of project managers, who need to evaluate the significance of changes throughout the project life cycle, make decisions, and communicate what is to be done
- Establish Change Control Boards composed of appropriate personnel, and ensure that their roles, responsibilities, and authority are defined and communicated
- When incorporating changes, the impact on the triple constraints (**cost, schedule, and performance**) must be considered
- Integrated change control should be introduced early in the project
- Ensure that all changes are approved in writing by the authorized representative

3. Xây dựng đội ngũ thực thi và quản lý nhân sự

1. Acquire project team
2. Develop project team
3. Team building activities
4. Manage project team
5. How to get better performance?

A Typical IT Project Team

Building a good team is the single most important thing a Project Manager can do to achieve a successful project.



Barriers to Team Building and Performance

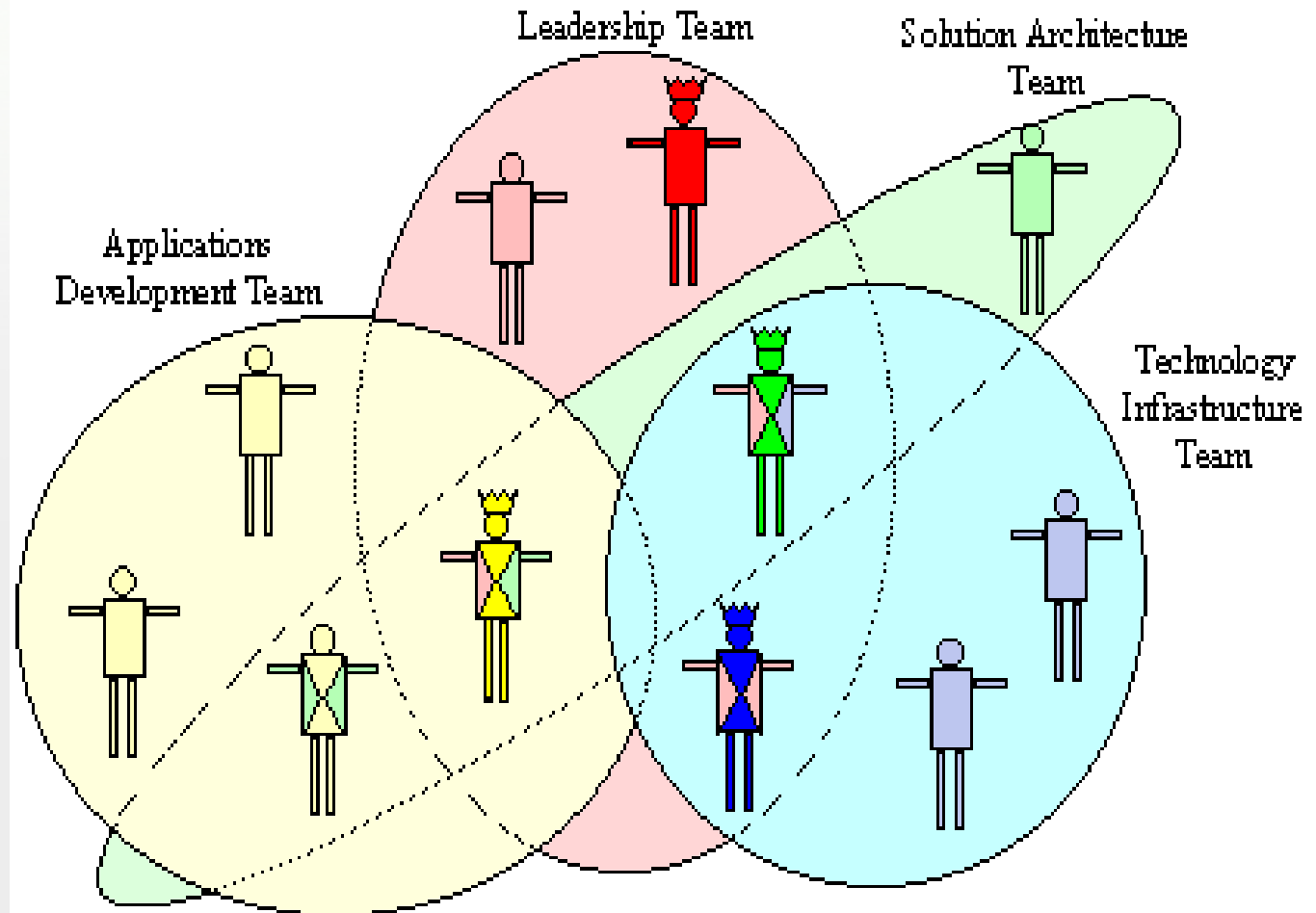
- ✿ Credibility of the project leader
- ✿ Unclear project objectives
- ✿ Changing project goals and priorities
- ✿ Lack of team definition and structure
- ✿ Confusion about the team member's roles and responsibilities
- ✿ Lack of effective communication
- ✿ Lack of commitment of team members
- ✿ Uninvolved, unsupportive upper management support
- ✿ Performance appraisals that fail to recognize teamwork
- ✿ Lack of appropriate team rewards and recognition
- ✿ Diversity of team members
- ✿ Excessive team size
- ✿ Insufficient resources

1. Acquire Project Team

- ✿ Confirm human resource availability and obtain the team necessary to complete project assignments.
- If the human resources are not enough to execute, project manager have to explain about it to project sponsor.
- Project manager need to have the negotiation to get additional staff.

Building a collaborative team

- Flexible team structure such that the right people work together for any given topic: **a leader for one issue might be only a contributor for another - and vice versa.**
- Example:
An ADT Leader is an important contributor to the SA Team and also to the overall PL team.



2. Develop Project Team

- ✿ Improve the competencies, team interaction, and the overall team environment to enhance project performance.
- Project manager should acquire skills to identify, build, maintain, motivate, lead, and inspire project teams to achieve high team performance and to meet the project's objectives.
 - ✿ Improve skills of team members in order to increase their ability to complete project activities
 - ✿ Encourage open communications
 - ✿ Improve feelings of trust and cohesiveness among team members
 - ✿ Establish realistic, achievable, objectives for the team
 - ✿ Gain commitment of team member support to make the team successful
 - ✿ Encourage team members to test their abilities and ideas
 - ✿ Understand the boundaries placed on the team which may dictate what the team can and cannot do
 - ✿ Allow for more effective conflict resolution

Characteristics of High-Performing Teams



3. Team Building Activities

✿ Forming

- ✿ Team meets and learns about the project and what their formal rules and responsibilities are.

✿ Storming

- ✿ Team begins to have different opinion and address the project work, technical decisions, and PM approach.

✿ Norming

- ✿ Team members begins to understand and adjust work style and behaviors.

✿ Performing

- ✿ Team reach the performing stage function as a well-organized unit.

✿ Adjourning

- ✿ Team completes the work and moves on from the project.

4. Manage Project Team

- ✿ "Project team organization" secures human resources necessary for the completion of the project.
- ✿ Tracking team member performance, providing feedback, manage conflict, keep performance better.

Some Interpersonal Skills Used in Managing Teams

- ✚ Ask appropriate questions to stimulate ideas and discussion
- ✚ Listen closely and intently to ideas and concerns
- ✚ Manage group discussions to encourage everyone to participate
- ✚ Establish an informal and non-threatening climate to stimulate open discussion
- ✚ Use the consensus method to reach decisions on key issues
- ✚ Involve team members in setting goals
- ✚ Implement meeting guidelines to minimize wasted time in meetings
- ✚ Encourage respect so all know their contributions are valued
- ✚ Deal with dysfunctional behaviors immediately
- ✚ Celebrate the achievement of milestones and accomplishments
- ✚ Use recognition, assignments and other techniques to motivate team members

5. How to get better performance?

A sensible balance achieves the best results:



reward vs punishment
pleasure vs pain
opportunity vs threat
encouragement vs coercion

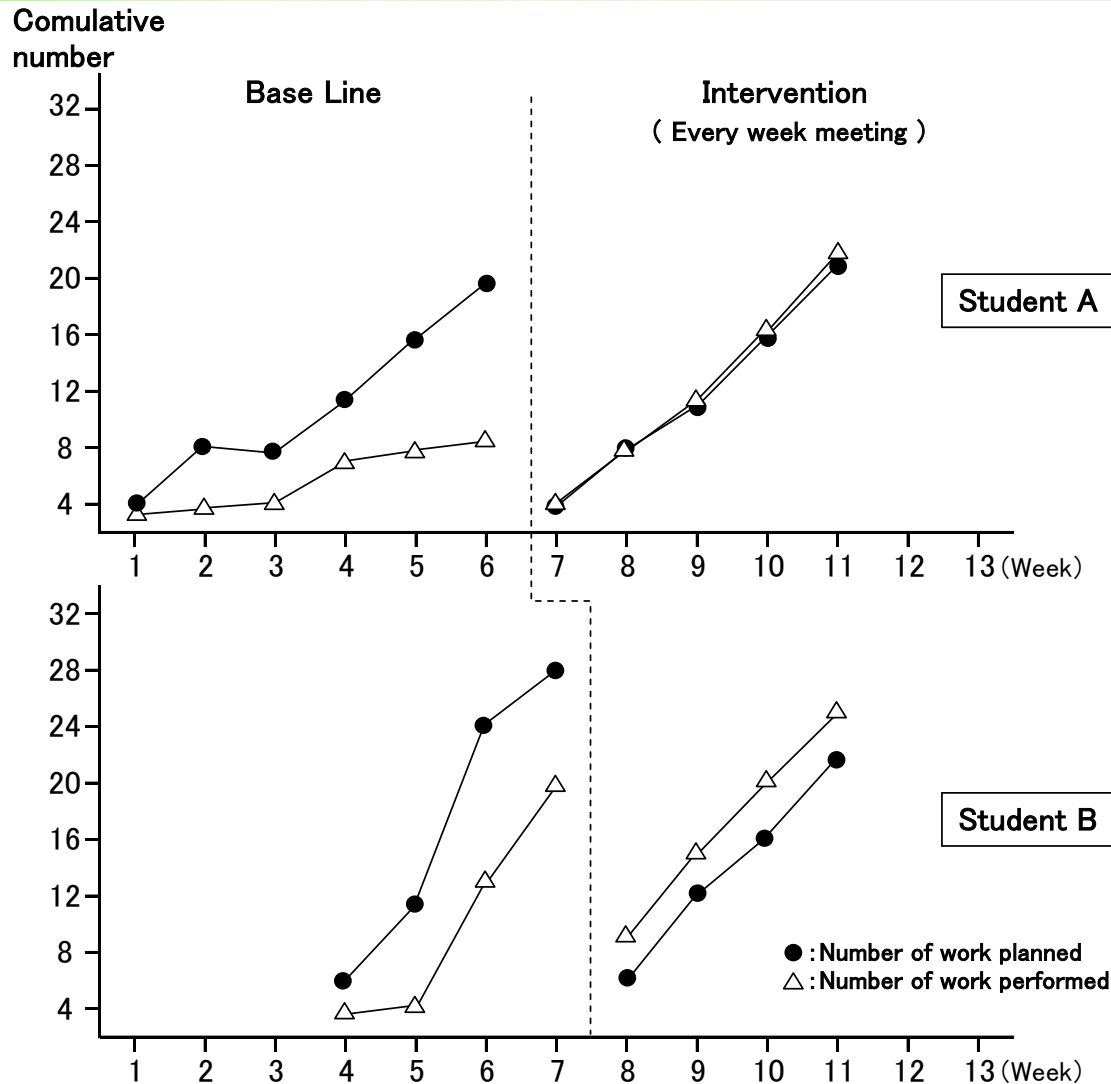
The classic analogy is the donkey, motivated by the promise of a **carrot** and the threat of a beating with the **stick**.

Most psychologists believe that the positive experience of the carrot is much more successful than the negative threat of the stick.

They would argue that the stick should be applied only on rare occasions with good cause - or, maybe, never at all. The carrot should be offered as a constant reward

How to get better performance?

Importance of the communication style/frequency



Until 7 weeks, professor requested some tasks to his students by oral communication with no weekly confirmation meeting.

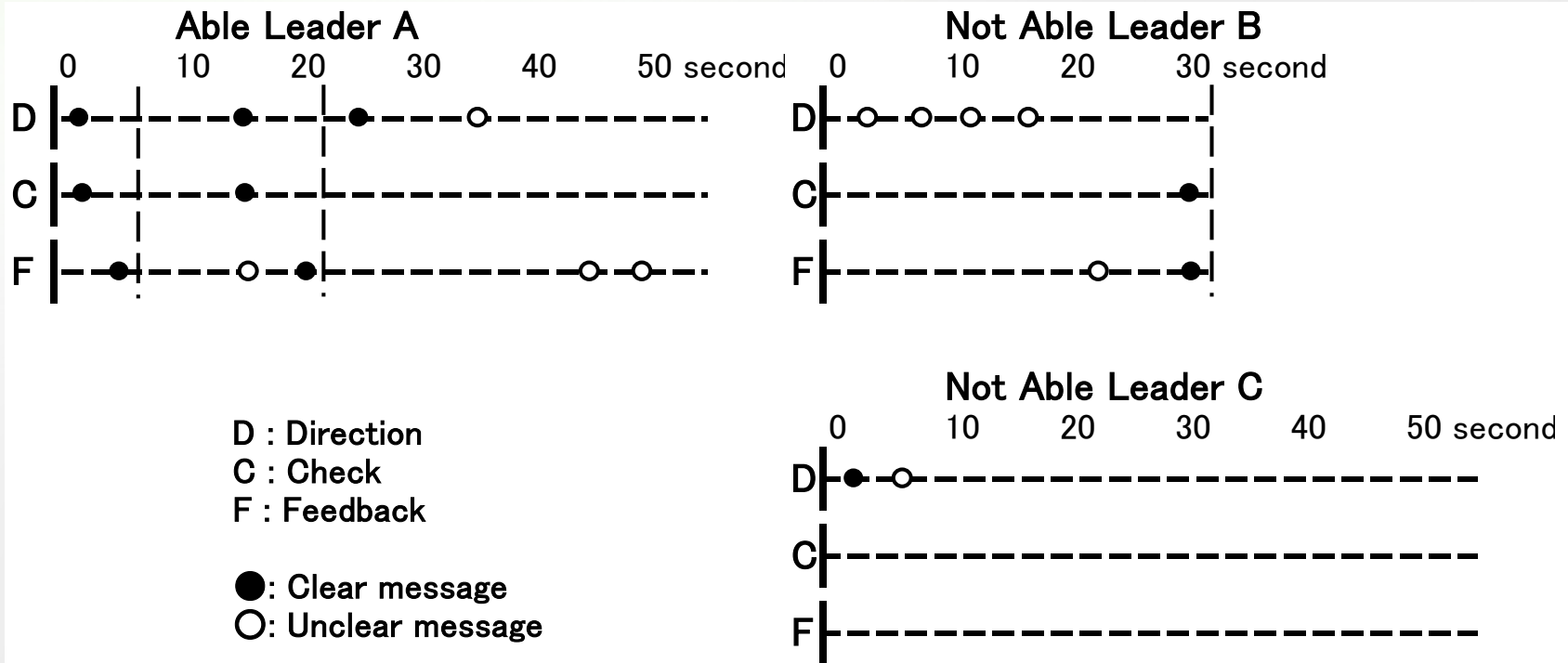
→ N° of work performed < N° of work planned.

→ Change the way to communicate with students:

- Ask the task to student A and B by written paper.
- Start to have weekly meeting to check the progress of tasks.

→ the number of work performed of Student A and B are both improved well.

How to get better performance? (cont)



There are differences of the way to communicate with crew between leaders. Able leader direct clearly, check, and give his crew feedback as soon as possible although not able leader does not do so.

4. Quản lý giao tiếp

1. Distribute information
2. Meetings
3. Videoconferencing
4. Non-verbal communication

What Is Communications Management?

- ✿ Includes all the processes required to collect, generate, disseminate, store, and dispose of project information
- ✿ Requires the process to determine the information and communications needs of the stakeholders (communications planning):
 - ✿ Establishing appropriate communications links within a project
 - ✿ Creating the communications management plan , which describes the plans to meet the information and communications needs of the stakeholders
 - ✿ Creating a communications strategy, a set of principles, values and objectives that give coherence to a project communications plan

Identifying the **informational needs** of the stakeholders and determining a suitable means of meeting those needs is an important factor for project success

Communication management plan

✚ Describes

- ✚ Communication needs and expectations for the project
 - providing important information to those who need to know it:
 - Project team and other project participants
 - End-users, affected members of the organization's management and workforce
 - external audiences: customers, suppliers, partners, regulatory bodies, etc.
 - conveying change messages to affect the attitude and behavior of various populations concerned.
- ✚ How and in what format information is communicated?
 - Face to face, word of mouth, meetings, electronic, workshop, training courses, events, ...
- ✚ When and where each communication is made?
- ✚ Who is responsible for providing each type of communications?

1. Distribute Information

- ✿ Distribute information is the process of making information available to project stakeholders as communication plan.
- ✿ Distribute information is the key to build a good team.
 - ✿ Main element as a team is that team has regular communication each other.
 - ✿ If you distribute information correctly, team member easy to get the feeling as a team.
 - ✿ It is not good to distribute information to some members only except delicate information.
 - ✿ It is more effective to share bad news between team members as soon as possible to get their support.

2. Meetings

- ✚ Two common complaints from project teams are: "too many meetings" and "not enough communication".
- Get optimum value from people's time.
- Wasting time at meetings often leads to cynicism, demotivation and a lack of confidence in the leaders.

Meetings

✿ Here is a typical pattern of recurring Project Team meetings...

Attendance	Purpose	Frequency
Full Project Team	Briefing, plenary session, and team-building social event	Approximately once a month , preferably coinciding with major milestones
Project leadership (PM plus team leaders)	Progress, issues, actions	Weekly
Team leader plus sub-team	Specific tasks, progress, problems, estimates, help wanted	Daily

Meetings

- ✿ In other cases, meetings will be arranged around specific activities or issues and will involve only the people concerned.
- ✿ If you take another look at the picture of the collaborative project team, you will see that there will be many different workgroup relationships and consequent needs to gather together the right people.
- ✿ Here is the ideal (but unachievable) mental picture of how the collaborative team works:

At any instant I can share my thinking with precisely the right group of people - those who can help and those who benefit from understanding.

3. Videoconferencing

Much productive time can be lost traveling to meetings.

Face-to-face meetings usually provide the best channel for discussion, information exchange and relationship building.

These benefits should be balanced against the lost productive time.

In general a mixture of physical and virtual meetings provides the best compromise.

There are two main styles of Videoconferencing:

- using specialist videoconference facilities or
- using desktop software from your PC.

The ideal scenario is to be able to hook up with other participants through the network at any time without leaving your desk.

Although this is technically feasible, relatively few organizations have the bandwidth and controls to operate it efficiently.

4. Non-verbal communication

- ✿ Objective: share information, knowledge, thoughts, concerns, feelings, etc in the most efficient way.
 - ✿ Range of channels available for communication within the project team and with external participants: Email, PC/web chat services, circulars, team/project news-letter, project website, documentation, formalized communication
- Remember that people often feel they have insufficient time to read all the written material that is sent to them - at least with face-to-face communication you can see that they can hear you (but not necessarily whether they are listening).

Tips for non-verbal communication

Channel	Commentary
Email	<p>Undoubtedly the conveyor of most ad-hoc written messages. Not everyone reads all their mail, so make sure its content and importance is clear in the title.</p> <p>For those people who like to scan message previews, make sure the most important facts appear in the first few words (don't waste the first two lines with "Dear Fred" and a blank line). For important communications, track that recipients have read and/or responded as required.</p>
PC / web chat services	<p>Real-time brief text messages exchanged between two or more participants. Can be very useful for brief exchanges. Provides instant check that the other person has read the message and responded. This works best if team members have access to a directory of chat addresses for all project participants. If something important or relevant to others comes up, copy and paste the text into an Email or document.</p>
Circulars	<p>There will be frequent needs to communicate messages to sub-sets of the Project Team - whether by paper, by Email or by other methods. The Project Office would normally maintain circulation lists and other contact information. Make sure you communicate valuable information to people who need to know, otherwise your messages become resource-wasting junk mail.</p>
Team newsletter	<p>Can be motivating, fun, informative, etc. The two main uses are to build team spirit and to communicate general information about the project. There is a danger that they achieve neither of these goals and become a waste of resources. Encourage people to read them with useful, valuable content - e.g. social calendar, bonus dates, and competitions.</p>

Tips for non-verbal communication

Channel	Commentary
Project newsletter	This is primarily aimed at participants outside the team. The objective will be to raise awareness and support for the project. In the latter stages of the project, more specific information, instructions and schedules will be conveyed. The use of external communications should be agreed as part of the Change Management planning.
Project Website	Many projects create a web site to hold a wide range of information that participants may wish to access. On the front page will be headline messages. Reference information would be accessible through indexes. Communication through this channel will be particularly effective if participants have to visit it - for example, if the (compulsory) timesheets are entered through the same portal.
Documentation	All projects generate great volumes of documentation, hopefully in a sharable electronic format. Easy, controlled access to the project documentation is the best way to enable communication of detailed information. Where there is something new or amended that particular team members need to be aware of, a process should be in place to draw their attention to it.
Formalized communication	Certain forms of communication are controlled through specific processes and media, for example timesheets, progress reports, change requests, issues, etc. See the specific guidance for these.

5. Quản lý lợi nhuận

Benefits-Oriented Classification

- ✿ DIRECT: projects with direct benefits
 - ✿ ENABLING: projects that deliver no direct benefit but which are vital to the delivery of a whole range of benefits from other projects
 - ✿ PASSENGER: projects that can only add to benefits expected from other projects.
 - ✿ SYNERGISTIC: a group of projects each of which makes no (or only a small) contribution unless combined into a programme.
- Why are we doing these projects?
- Why are we still doing these projects?

6. Khoản thực thi dự án

Introduction

- ✿ Project procurement management involves acquiring goods and services for a project from outside the performing organization

Project Procurement Management Processes

- ✿ Planning purchases and acquisitions: determining what to procure, when, and how
- ✿ Planning contracting: describing requirements for the products or services desired from the procurement and identifying potential sources or sellers (contractors, suppliers, or providers who provide goods and services to other organizations)
- ✿ Requesting seller responses: obtaining information, quotes, bids, offers, or proposals from sellers, as appropriate
- ✿ Selecting sellers: choosing from among potential suppliers through a process of evaluating potential sellers and negotiating the contract
- ✿ Administering the contract: managing the relationship with the selected seller
- ✿ Closing the contract: completing and settling each contract, including resolving any open items

Figure 12-1: Project Procurement Management Summary

Planning

Process: **Plan purchases and acquisitions**

Outputs: Procurement management plan, contract statement of work (SOW), make-or-buy decisions, requested changes to the project

Process: **Plan contracting**

Outputs: Procurement documents (i.e., RFP, evaluation criteria, updates to the contract SOW)

Executing

Process: **Request seller responses**

Outputs: Qualified sellers list, procurement document package, proposals

Process: **Select sellers**

Outputs: Selected sellers, contracts, contract management plan, resource availability information, updates to the procurement management plan, requested changes

Monitoring and Controlling

Process: **Administer the contract**

Outputs: Contract documentation, requested changes, recommended corrective actions, updates to organizational process assets and the project management plan

Closing

Process: **Contract closure**

Outputs: Closed contracts, updates to organizational process assets

Project Start

Project Finish

Discussion Questions

- ✿ Discuss the scenario in the opening case. Have you experienced similar situations? How did the parties involved handle them?
- ✿ Provide examples of information technology goods and services that were outsourced. Which were for information technology projects and which were parts of on-going operations? Was it advantageous for the organization to use outsourcing?
- ✿ Some experts recommend working with preferred vendors, even if their prices may be higher than other vendors. Why do you think this is the case?

Using Software to Assist in Project Procurement Management

- ✿ Word-processing software: write proposals and contracts
- ✿ Spreadsheets software: evaluate suppliers
- ✿ Databases software: track suppliers
- ✿ Presentation software: present procurement-related information
- ✿ E-procurement software: do many procurement functions electronically
- ✿ Other Internet tools: find information on suppliers or auction goods and services

7. Thuê thực thi dự án (Outsourcing)

What is IT outsourcing ?

- ✿ The use of service providers or vendors to create, maintain, or reengineer a company's IT architecture and systems.
- ✿ The most regularly outsourced IT services today include:
 - ✿ Application management
 - ✿ Infrastructure management
 - ✿ Help desk services
 - ✿ Independent testing and validation services
 - ✿ Data center management
 - ✿ Systems integration
 - ✿ R&D services
 - ✿ Managed security services

Why Outsource?

- ✿ To reduce both fixed and recurrent costs
 - ✿ To allow the client organization to focus on its core business
 - ✿ To access skills and technologies
 - ✿ To provide flexibility
 - ✿ To increase accountability
- The balance of cost savings and access to IT competencies when outsourcing IT/IS competencies.
- Ensure that IT outsourcing decisions support business strategy and enhance business competitive advantage.

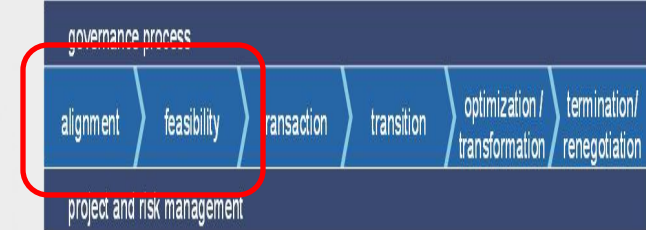
IT outsourcing life cycle

✿ Governance Outsourcing Framework

- ✿ Align every IT outsourcing contract with the organization's key business objectives
- ✿ Set up a monitoring mechanism
- ✿ Manage changes in IT projects and services across complex portfolios.
- ✿ Establish direct and visible accountability for IT performance.
- ✿ Define specific ownership of key contract terms.
- ✿ Define well-integrated IT management processes for the client and service provider.



Key Control Considerations: Risks and Client Operations



- ✚ Strategy: Outsourcing strategy is not aligned with corporate objectives.
- ✚ Feasibility: Assumptions (e.g., payback period, customer and supply-chain impacts, and cost savings) are wrong as the result of inadequate due diligence from suppliers and the organization's failure to assess relevant risks.

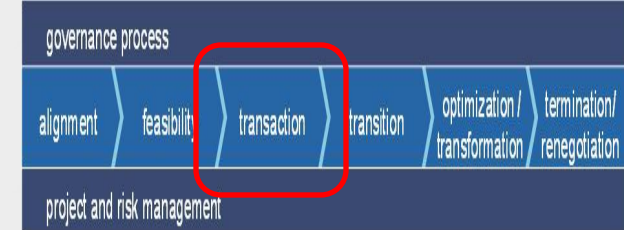
Alignment

- Validating the strategy.
- Identifying options.
- Preparing the business model.
- Agreeing on sponsorship and building the team.

Feasibility

- Building the business model and case.
- Creating the baseline.
- Understanding the market.
- Assessing and benchmarking options.

Key Control Considerations: Risks and Client Operations



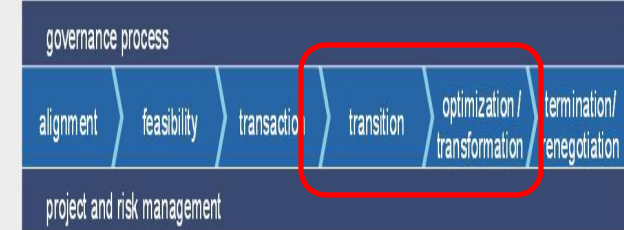
✚ Transaction:

- ✚ Procurement policies are not met
- ✚ Proper service-level agreements are not implemented
- ✚ Operational, human resources (HR), and regulatory implications are not considered
- ✚ Contingency arrangements are not planned.

Transaction

- Structuring the deal.
- Agreeing on outsourced assets.
- Negotiating the contract.
- Delivering the deal and the business case.

Key Control Considerations: Risks and Client Operations



- ✿ Transition: There is a lack of formal transition planning, failure to plan for retention of appropriate skills, and an ineffective escalation and resolution of operational IT issues.
- ✿ Optimization and Transformation: The outsourcing contract is not managed effectively. Therefore, outsourcing benefits and efficiencies are not achieved.

Transition

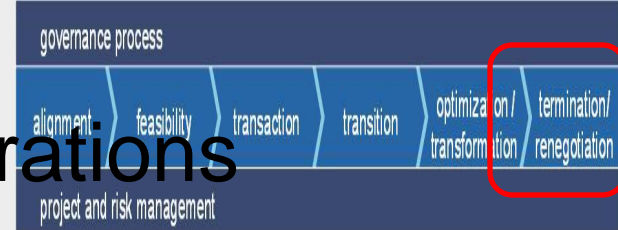
- Delivering the change.
- Getting quick returns on investment.
- Establishing the culture.
- Managing people.

**Change
management**

Optimization & Transformation

- Monitoring the contract and resolving disputes.
- Transforming the business.
- Reassessing the relationship.
- Delivering the business case – realizing the benefits.

Key Control Considerations: Risks and Service Provider Operations



- ✚ Termination and Renegotiation: There is an inadequate termination of outsourcing processes.

Termination and Renegotiation

- Control environment
- Security considerations
 - Data protection risks
 - Security - network, physical, environment, personal and logical access
 - Business continuity
- System Development Life Cycle (SDLC) controls
- Change management controls
- HR policies and procedures

Top 10 questions the Chief Audit Executive should ask

- ✚ Are the services outsourced significant to the client?
- ✚ Does the client have a well-defined outsourcing strategy?
- ✚ What is the governance structure relating to outsourced operations? Are roles and responsibilities clearly defined?
- ✚ Was a detailed risk analysis performed at the time of outsourcing, and is a regular risk analysis being done?
- ✚ Do formal contracts or SLAs exist for the outsourced activities?
- ✚ How is compliance with the contract or SLA monitored?
- ✚ Does the SLA clearly define KPIs for monitoring vendor performance?
- ✚ What is the mechanism used to address noncompliance with the SLA?
- ✚ Are the responsibilities of the ownership of data, system, communication system, operating system, utility software, and application software clearly defined and agreed upon with the service provider?
- ✚ What is the process of gaining assurance on the operating effectiveness of the internal controls at the service provider's end?

8. Đảm bảo hoàn tất dự án

Idea

- ✿ Bring the project to completion on time, within budget, and to specifications by:
 - ✿ Verifying the baseline established for the project
 - ✿ Focusing on monitoring, analyzing, and comparing planned and actual results of project predictions
 - ✿ Identifying variances that delay achievement of objectives
 - ✿ Conducting a timely adjustment to the plan and taking preventive actions
- repeated throughout the life cycle of a project (project control)

Guidelines for Collecting and Evaluating Project Performance

Analyze progress in the areas of time, budget, technical performance, and objectives

- ✚ Focus analysis on one cycle back and three cycles forward
 - ✚ Example: one week back, three weeks forward
- ✚ Identify work completed
 - ✚ Support people doing a good job (reward good performance)
- ✚ Evaluate work that is late starting or completing
 - ✚ What is the effect on schedule and budget?
 - ✚ What actions can you identify to mitigate these impacts?
 - ✚ Who should be responsible for any actions?
- ✚ Evaluate work that is starting
- ✚ Ensure that owners know and agree that their work can start on time
- ✚ Apply risk analysis techniques

Guidelines for Collecting and Evaluating Project Performance (2 of 2)

Analyze progress in the areas of time, budget, technical performance, and objectives

- ✚ Evaluate work due for completion
- ✚ Check with owners to ensure that work is on target
- ✚ Evaluate trends and other data that supports the owners' opinions
- ✚ Provide updated estimates for task completion
- ✚ Conduct project reviews
- ✚ Communicate status regularly
- ✚ Track issue and problem resolution

Evaluate: Compare Actual and Planned Performance Using Metrics

Metrics allow a project manager to monitor, communicate, and track progress and trends

✚ What is a metric?

- ✚ It is planned
- ✚ It spans the life of the project
- ✚ It is trackable
- ✚ It generates variance
- ✚ It is understood by the client/project sponsor

✚ The project manager must:

- ✚ Choose metrics appropriate to the specific project
- ✚ Determine the preferred metrics of the client/project sponsor
- ✚ Determine the preferred metrics of the internal organization

No standard metrics apply to all projects

Examples of Metrics

✚ Planned versus Actual

- ✚ Resource utilization
- ✚ Revenue
- ✚ Cost
- ✚ Work done
- ✚ Defects
- ✚ Task starts and finishes
- ✚ Hours actually expended
- ✚ Schedule (Completion of milestones)
- ✚ Technical control points
- ✚ Deliverables
- ✚ Quality trends
- ✚ Consumable resources used

Key Messages

- ✿ Without project control, you are managing in chaos
- ✿ Use the original plan, plus or minus approved changes (baseline), to control project performance
- ✿ Use appropriate metrics to communicate with the individuals or groups involved in the project
- ✿ Make sure you have the correct metrics for your project; they drive:
 - ✿ Communication
 - ✿ Analysis
 - ✿ Decision making