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A **project** is "a temporary endeavor undertaken to create a unique product, service, or result." **Project management** is the use of specific knowledge, skills, tools and techniques to deliver something of value to people. The development of software for an improved business process, the construction of a building, the relief effort after a natural disaster, the expansion of sales into a new geographic market—these are all examples of projects.

Leading these projects are Project Professionals—people who either intentionally or by circumstance are asked to ensure that a project team meets its goals. Project professionals use many different tools, techniques and approaches to meet the needs of a project. Some projects are needed to quickly resolve problems, with an understanding that improvements will be made over a period of time. Other projects have a longer duration and/or produce a product or other outcome that will not need major improvements outside of projected maintenance, such as a highway. There are two major organizations with worldwide impact on the practice of project management: the Project Management Institute (PMI), with world headquarters in the United States, and the International Project Management Association (IPMA), with world headquarters in Switzerland.

PMI® : Project Management Institute

PMI® is a leading membership-based organization that provides tools, best practices, and networks for project managers and practitioners who need to successfully manage their projects, programs, and portfolios. The **Project Management Institute** was founded in 1969 by Ned Engman, James Snyder, Susan Gallagher, Eric Jenett, and J Gordon Davis. Their initial goal was to establish an organization where members could share their experiences in project management and discuss issues. PMI first began offering the Project Management Professional (PMP) certification exam in 1984. This leading international organization currently supervises and guides more than 480,000 professionals from all around the world. It provides global advocacy, professional development training and courses, collaboration opportunities, publications and reports, educational materials, and academic research.

Currently, the Project Management Institute's standards are the most widely-used set of guidelines by project management professionals. These were created by PMI® experienced volunteer practitioners who've managed different types of projects during their project management careers. The directions are now used as common practices by all project managers who follow the PMI® framework. If you're an active project management professional, the PMI® membership is for you. PMI® member groups include project managers who want to improve their skills according to PMI standards, find a better job with higher authority, or just want to earn higher salaries. However, PMI® memberships are a great fit for anyone who'd like to manage projects in a company or on a large scale, gain accountability for a project, or maybe just add project management as a skill to their resume.

PMI has its headquarters in Pennsylvania, United States, and also has offices in Washington, DC, and in Canada, Mexico, and China, as well as having regional service centers in Singapore, Brussels (Belgium), and New Delhi (India). Recently, an office was opened in Mumbai (India). It's also best to use it within industries such as Construction, Architecture, Finance, Consulting, Governance, and Quality Assurance when used appropriately.

Project Management Body of Knowledge

To help keep project management terms and concepts clear and consistent, PMI introduced the book "*A Guide to the Project Management Body of Knowledge (PMBOK Guide)*" in 1987. It was updated in 1996, 2000, 2004, 2009, 2013, and most recently in 2017 as the sixth edition.

At present, there are more than one million copies of the *PMBOK Guide* in circulation. The highly regarded Institute of Electrical and Electronics Engineers (IEEE) has adopted it as their project management standard. In 1999 PMI was accredited as an American National Standards Institute (ANSI) standards developer and also has the distinction of being the first organization to have its certification program attain International Organization for Standardization (ISO) 9001 recognition. In 2008, the organization reported more than 260,000 members in over 171 countries.

The **Project Management Body of Knowledge** is a set of standard terminology and guidelines (a body of knowledge) for project management. The body of knowledge evolves over time and is presented in *A Guide to the Project Management Body of Knowledge* (the *Guide to the PMBOK*), a book whose sixth edition was released in 2017. A Guide to the Project Management Body of Knowledge — Sixth Edition provides guidelines for managing individual projects and defines project management related concepts. It also describes the project management life cycle and its related processes, as well as the project life cycle and for the first time it includes an "Agile Practice Guide". The PMBOK as described in the Guide recognizes 49 processes that fall into five basic process groups and ten knowledge areas that are typical of most projects, most of the time.

Knowledge Area

The ten *knowledge areas*, each of which contains some or all of the project management processes, are:
- **Project scope management** involves defining and managing all the work required to complete the project successfully.
- **Project schedule management** (formerly called 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.
- **Project cost management** consists of preparing and managing the budget for the project.
- **Project quality management** ensures that the project will satisfy the stated or implied needs for which it was undertaken.
- **Project resource management** is concerned with making effective use of the people and physical resources involved with the project.
- **Project communications management** involves generating, collecting, disseminating, and storing project information.
- **Project risk management** includes identifying, analyzing, and responding to risks related to the project.
- **Project procurement management** involves acquiring or procuring goods and services for a project from outside the performing organization.
- **Project stakeholder management** includes identifying and analyzing stakeholder needs while managing and controlling their engagement throughout the life of the project.
- **Project integration management** 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 10 of these areas.

Process groups

The five *process groups* are:

- **Initiating**: processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.
- **Planning**: Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.
- **Executing**: Those processes performed to complete the work defined in the project management plan to satisfy the project specifications
- **Monitoring and Controlling**: Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.
- **Closing**: Those processes performed to finalize all activities across all Process Groups to formally close the project or phase.

Project Portfolio Management

A portfolio is a collection of projects grouped together. Portfolio managers help their organizations make wise investment decisions by helping to select and analyze projects from a strategic perspective. Portfolio managers may or may not have previous experience as project or program managers. It is most important that they have strong financial and analytical skills and understand how projects and programs can contribute to meeting strategic goals.

Project portfolio management refers to "the centralized management of one or more project portfolios to achieve strategic objectives". Project portfolio management ensures all approved and ongoing projects meet strategic objectives, and are managed efficiently to deliver the optimal results. It's about doing the right projects at the right time. Figure 1-3 illustrates the differences between project management and project portfolio management. Notice that the main distinction is a focus on meeting tactical or strategic goals. Tactical goals are generally more specific and short term than strategic goals, which emphasize long-term goals for an organization.

Figure 1-3. Project management compared to project portfolio management

1 Individual projects often address tactical goals, whereas portfolio management addresses strategic goals.
2 Project management addresses questions like "Are we carrying out projects well?", "Are projects on time and on budget?", and "Do project stakeholders know what they should be doing?"

3. Portfolio management addresses questions like "Are we working on the right projects?", "Are we investing in the right areas?", and "Do we have the right resources to be competitive?"
4. PMI defines a portfolio as "projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives."

	Projects	Programs	Portfolios
Definition	A project is a temporary endeavor undertaken to create a unique product, service, or result.	A program is a group of related projects, subsidiary programs, and program activities that are managed in a coordinated way to obtain benefits not available from managing them individually.	A portfolio is a collection of projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives.
Management	Project managers manage the project team to meet the project objectives.	Programs are managed by program managers who ensure that program benefits are delivered as expected, by coordinating the activities of a program's components.	Portfolio managers may manage or coordinate portfolio management staff, or program and project staff that may have reporting responsibilities into the aggregate portfolio.
Monitoring	Project managers monitor and control the work of producing the products, services, or results that the project was undertaken to produce.	Program managers monitor the progress of program components to ensure that the overall goals, schedules, budget, and benefits of the program are met.	Portfolio managers monitor strategic changes and aggregate resource allocation, performance results, and risk of the portfolio.
Success	Success is measured by product and project quality, timeliness, budget compliance, and degree of customer satisfaction.	A program's success is measured by the program's ability to deliver its intended benefits to an organization, and by the program' efficiency and effectiveness in delivering those benefits.	Success is measured in terms of the aggregate investment performance and benefit realization of the portfolio.

Project portfolio management
- ❖ The objective of a project portfolio manager is to link business strategy with project implementation. Key responsibilities include project request management; overall resource allocation and management; risk management; identifying and reducing inefficiencies; liaising with senior stakeholders; change management, and tracking the business value of projects.
- ❖ When implemented effectively, project portfolio management helps to improve project management processes and methods, reducing project failures and improving customer satisfaction.

Project portfolio management tasks include:
- ❖ Strategic alignment: selecting and prioritizing projects that align with strategic objectives
- ❖ Resource management: planning, managing and staffing human resources in terms of projects This includes keeping up with employees' skills and capacities as well as taking into account project timelines and budgets
- ❖ Rough milestone planning: initiating, planning, implementing, and completing the projects
- ❖ Training and coaching project managers and teams
- ❖ Introduction and maintenance of PM methods, tools, and technologies
- ❖ Project portfolio controlling: monitoring and evaluating project progress

- ❖ Project support: communication and support for project teams
- ❖ Program support: communication and support for program managers, especially in regards to risks, issues, and dependencies to find solutions to keep the program healthy

The project management profession

- ❖ To understand the project management profession it is helpful to briefly review the history of PM, PMI and some of its services and discuss the growth in PM software.

History of Project Management

Modern concept of PM began with the Manhattan project, which the US military led to develop the atomic bomb in WW2(1939-1945). It included many people with different skills at several different locations. In developing this project, the military realized that scientists and other technical specialists often did not have the desire or the necessary skill to manage large projects. Hence, in 1943 organizational chart was formed. PM was recognized as a distinct discipline requiring people with special skills and more importantly, the desire to lead project teams.

In 1917, long before the Manhattan project, Henry Gantt developed the famous Gantt Chart for scheduling work in factories. Gantt chart is a standard format displaying project schedule information by listing project activities and their corresponding start and finish dates in calendar form. Earlier Gantt charts were drawn by hands as it provided a standard format for planning and reviewing all the work on projects. Projects managers still use Gantt chart as the primary tool to communicate project schedule information, but with the aid of computers.

In 1958, network diagrams were first used by US Navy Polaris Missile in sub-marine projects. The diagram includes arrows which indicates which tasks are related and the sequence in which each team members must perform the task. By 1970s, the US Military and its civilian suppliers had developed software to assist in managing large projects. In 1990s, many companies begin creating project management offices (PMO) to help them manage increasing number and complexity of projects

Project management offices

- ❖ PMO is an organizational group responsible for coordinating the project management function throughout an organization. A 2016 study found that 85% of the US companies have PMOs. PM solutions identified three key factors that are playing major roles in the growth of PMOs:
1. Growing strategic value of the PMO
2. The increased role of the PMO in training
3. The ever-present challenge of resource management

PMI certifications

- • Professional certification is an important factor in recognizing and ensuring quality in a profession. PMI provides certification as a Project Management Professional (PMP®) — someone who has documented sufficient project experience and education, agreed to follow the PMI code of professional conduct, and demonstrated knowledge of project management by passing a comprehensive examination.

- **Certified Associate in Project Management (CAPM)®** – shows fundamental knowledge of project management practices and terms
- **Project Management Professional (PMP)®** – the most sought-after certification that many employers demand from the project managers they hire as it validates their overall competence for this role
- **PMI® Professional in Business Analysis (PMI-PBA)®** – to validate knowledge and expertise in business analysis
- **PMI® Agile Certified Practitioner (PMI-ACP)®** – for project managers who apply agile standards and tools for their projects
- **Program Management Professional (PgMP)®** – for program managers who strategically oversee several complex projects
- **Portfolio Management Professional (PfMP)®** – for portfolio managers who coordinate multiple portfolios
- **PMI® Risk Management Professional (PMI-RMP)®** – to validate knowledge in identifying and managing risks
- **PMI® Scheduling Professional (PMI-SP)®** – to demonstrate know-how in creating, maintaining, and overseeing project schedules

Ethics in project Management

- Ethics is set of principles that guides decision making based on personal values on what is considered right or wrong. Project managers often face ethical dilemma. PMI approved code of ethics and professional conduct that took effect on January 2007. The PMI code of ethics and professional conduct includes short chapters addressing vision and applicability, responsibility, respect, fairness and honesty.

Project Management Software

Project management software is software used for project planning, scheduling, resource allocation and change management. It allows project managers (PMs), stakeholders and users to control costs and manage budgeting, quality management and documentation and also may be used as an administration system. Project management software is also used for collaboration and communication between project stakeholders. Project management software caters (complete) to the following primary functions:

- ❖ **Project planning**: To define a project schedule, a project manager (PM) may use the software to map project tasks and visually describe task interactions.
- ❖ **Task management**: Allows for the creation and assignment of tasks, deadlines and status reports.
- ❖ **Document sharing and collaboration:** a central document repository accessed by project stakeholders.
- ❖ **Calendar and contact sharing:** Project timelines include scheduled meetings, activity dates and contacts that should automatically update across all PM and stakeholder calendars.
- ❖ **Bug and error management:** Project management software facilitates bug and error reporting, viewing, notifying and updating for stakeholders.
- ❖ **Time tracking:** Software must have the ability to track time for all tasks maintain records for third-party consultants.

The software tools can be divided into three general categories base on functionality and price:

1. Low-end tools:
- Provide basic PM features and generally cost less than $200 per user.
- Recommended for small projects and single users
- Eg: smartphone and tablet apps that cost less but provide only limited functionality
- Allows users to create Gantt Charts

2. Midrange tools:
- Designed to handle larger projects, multiple users and multiple projects.
- All of these tools can produce Gantt charts and network diagrams
- It can assist in critical path analysis, resource allocation, project tracking and status reporting
- Prices range from about $200 to $600 per user
- Several tools require additional server software for using workgroup features

3. High-end tools:
- Referred to as enterprise project management software
- Provide robust capabilities to handle very large projects and dispersed workgroups
- Have enterprise and portfolio management functions that summarize and combine individual project information to provide an enterprise view of all projects

In mid-2002, Microsoft introduced the first version of its Enterprise Project Management software, and in 2003, it introduced the Microsoft Enterprise Project Management solution, which was updated several times since then. In 2008, Oracle acquired Primavera Software, Inc., another popular tool for project-intensive industries

Project phases and the Project Lifecycle

❖ It is better to divide projects into different phases. A project lifecycle is a collection of phases that breaks projects into smaller more manageable chunks that will reduce uncertainty. Project lifecycle define what work will be performed in each phase, what deliverables will be produces and when, who is involved in each phase and how management will control and approve work produced in each phase

Project life cycles

In early phases of project lifecycle, resources needed are usually lowest and the level of uncertainty highest. In the early phase it is less expensive to change the final characteristic of project's products, services or results as compared to the later phase. During the middle phases of the project lifecycle, the certainty of completing the project improves as it continues and as more information is known about the project requirements and objectives. More resources are required. Final phase focuses on ensuring that project requirements were met.

❖ Initiation, planning, implementation, and closure = **Planning, build-up, implementation, and closeout**.

Schwalbe illustrates the phases of a project life cycle and associated deliverables in Figure 2-1 below.
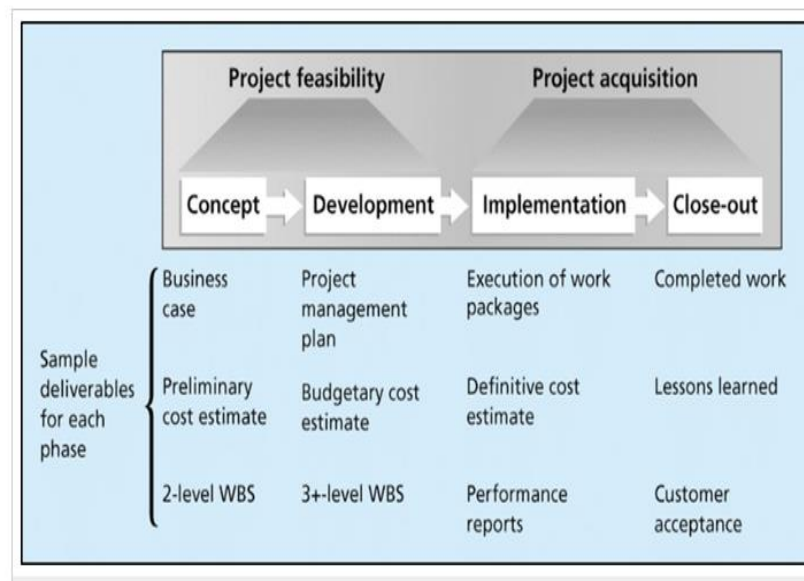
❖ **In the concept phase**,
  - Managers usually develop a business case that describes the need for the project and the basic underlying concepts
  - Rough cost estimate is developed
  - Overview of the required work is created
❖ **In the development phase,**
  - Project team creates more detailed project management plan
  - More accurate cost estimate
  - A project idea must pass the concept phase before evolving into the development phase
  - No actual work is done, but all the planning is complete
❖ **In the implementation phase**,
  - Focuses on doing the work for the project
  - the team creates those things outlined in the project plan, called the deliverables
  - Implementation also involves controlling any changes to the plan, including changes in budget, timing, or deliverables
  - Provides performance report to the stakeholders
❖ **In the close-out phase**,
  - All the works are completed and delivered
  - The customer may be queried regarding the acceptability and quality of the project
 - Project teams should document its experience on the project on lesson – learned report

Characteristics of the Project Life Cycle
  ❖ **Cost and staffing levels:** The concentration of cost and staffing are slight at the beginning, increasing toward the completion and decreasing rapidly toward the finishing of the project.

- ❖ **Potential savings and cost to change**
  As a project progresses, the cost of alteration or addition increases. The earlier in the project life cycle that errors are identified, the cheaper they are to correct. As the project progresses, the ability to achieve savings diminishes. Similarly, the cost to change increases as the project progresses through the Project Life Cycle.
- ❖ **Adding value:** The ability to control costs and add value to the project's output is at its greatest during the Conceptual Phase and at its least during the Finishing Phase.
- ❖ **Ability of stakeholders' influence**
  Generally, at the start of the project, the stakeholders are able to influence the final characteristics of the project's outcome and the final cost of the project.
- ❖ **Probability of project success:**
  At the start of the project, the chance of successfully completing the project is lowest; therefore, the risk and uncertainty are highest. The likelihood of successful completion generally gets progressively higher as the project continues.
- ❖ **Uncertainty and financial commitment**
  The level of uncertainty and risk is highest during the Conceptual and Development Phases and, as more information about the project is known, it will gradually be reduced through the Execution Phase. Unlike financial commitment, it is usually lower during the initial phases and much higher during the Execution Phase.
- ❖ **Production of information**
  The information developed during the Conceptual and Development Phases will be used in the Execution and Finishing Phases. Thus, it is important to ensure that the project management information system and communication plans are established early.

Product life cycle

The term product life cycle refers to the length of time a product is introduced to consumers into the market until it's removed from the shelves. The concept of product life cycle helps inform business decision-making, from pricing and promotion to expansion or cost-cutting.
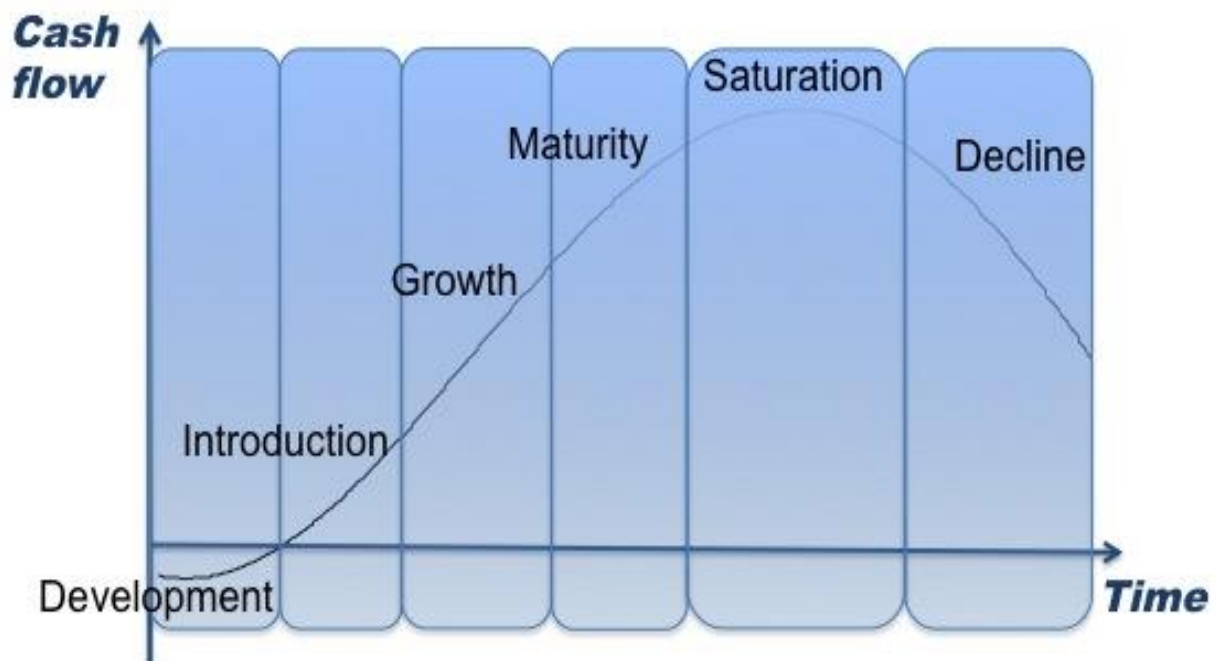
1. Development

The product development stage is the research phase before a product launch. Technically, this falls outside the definition of the product life cycle, but it's a vital step to be aware of. In short, it's used to determine the viability of a product, confirm when it should go to market and how to approach your official launch.

2. Introduction

The introduction stage is when your product is first launched in the marketplace. It's where you step beyond the product itself to develop a market for the product and build product awareness. Here, you'll work out to a target market, conduct a market analysis to understand the competitive , and ideally land your first few sales. Marketing costs are high at this stage, as it is necessary to reach out to potential customers. The best approach when promoting a new product is to focus on testing distribution channels and messaging.

3. Growth

In the growth stage, the product has been accepted by customers, and you are now striving to increase market share. That means that demand and revenue are growing, ideally at a steady rate. How long you achieve steady growth fully depends on your product, the current market landscape, and the adoption rate of customers. If you're entering an already crowded market with a product, you'll likely see competitors react fairly quickly. If you've entered a market with less competition or are first to market in a breakout industry, you'll likely see a slower response by new or current entrants.

4. Maturity and saturation

The mature stage is when sales will level off. This doesn't mean you aren't still growing, you just won't see the same level of rapid growth as before. Typically at this point, you will begin to lower prices, offer free additions or make other adjustments to keep your products competitive. Production costs tend to decline, costly mistakes in the manufacturing process can now be avoided. Most consumers are likely already using a version of your product and have begun developing brand preferences.

5. Decline

The decline stage of the product life cycle is associated with decreasing revenue due to market saturation, high competition, and changing customer needs. Companies at this stage have several options:
- Discontinue the product
- Sell the manufacturing rights to another business
- Find new uses for the product
- Tap into new markets
- It's at this stage, where you'll really need to weigh the costs and benefits associated with each option. Are you really capable of revising the product? Are there other features you simply haven't tapped into? Is there a market you haven't looked into that could benefit from your product?

IT product development Life Cycle:

IT projects are used to develop products and services such as new software, hardware, networks, research reports, and training on new systems. Software development projects are one subset of IT projects. Many IT projects involve researching, analyzing and then purchasing and installing new hardware and software with little or no software development required. Many argue that developing software requires project managers to modify

traditional project management methods, depending on a particular product's lifecycle. A system development life cycle (SDLC) is a framework for describing the phases of developing information systems. The PMBOK® Guide – Sixth Edition briefly describes five product or development life cycles.

Two factors are important in deciding which life cycle to use: the degree of change in requirements and the frequency of delivery of useful results.

1. **Predictive life cycle:** The scope, schedule, and cost are determined early, and changes to scope are carefully managed. PMI also refers to predictive life cycles as waterfall.

2. Iterative life cycle: The scope is determined early, but time and cost estimates are modified as the understanding of the product increases. Iterations are used to develop the product through a series of repeated cycles to add to the functionality of the product. This approach works best when there is a high degree of change and a low frequency of delivery.

3. Incremental life cycle: Deliverables are produced through a series of iterations that add functionality within a set time frame. The deliverable is not complete until after the final iteration. This approach works best when there is a low degree of change and a high frequency of delivery.

4. Adaptive life cycle: Stakeholders define and approve the detailed scope before the start of an iteration, producing a useable product at the end of each iteration. PMI also refers to adaptive life cycles as agile or change-driven. This approach works best when there is a high degree of change and a high frequency of delivery.

5. Hybrid life cycle: A combination of approaches is used based on the nature of the work. For example, some deliverables might have a low degree of change and low frequency of delivery such as weekly progress reports, a high degree of change and a high frequency of delivery such as certain software features, and so on.

Waterfall approach to the SDLC

❖ Has well-defined, linear stages of system analysis, design, construction, testing and support
❖ Assumes that requirements remain stable after they are defined
❖ Is used when risk must be tightly controlled and when changes must be restricted after the requirements are defined
❖ Used in many large scale projects where complexity and costs are so high that the more rigid steps of the approach help to ensure careful completion of all deliverables
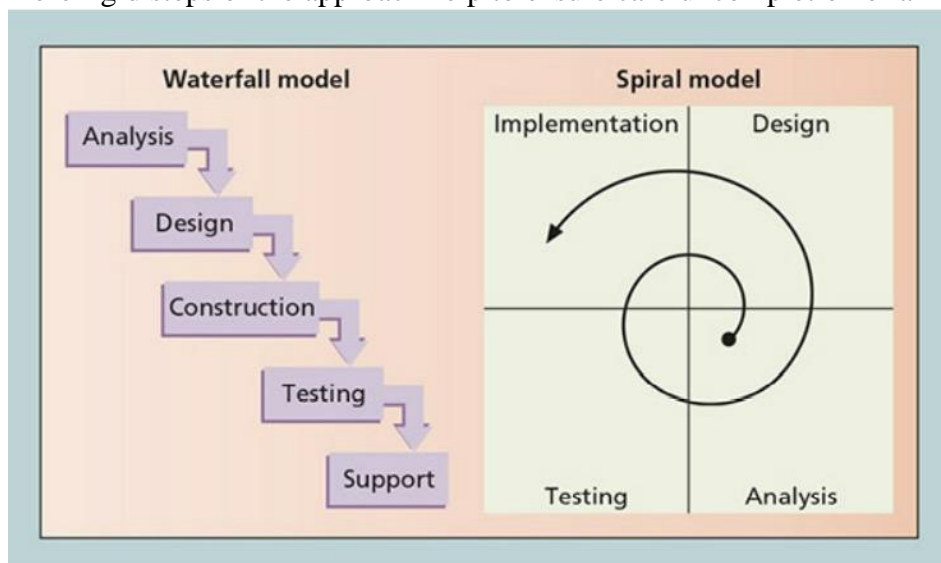
The spiral life cycle model

- ❖ It recognizes the fact that most software is developed using iterative or spiral approach rather than a linear approach
- ❖ Project team is open to changes and revisions later in the project life cycle and returns to the requirements phase to more carefully clarify and design the revisions
- ❖ Suitable for projects in which changes can be incorporated with reasonable cost increases or with acceptable time delays

The incremental build life cycle model :

- ❖ provides for progressive development of operational software, with each release providing added capabilities
- ❖ often used by organizations like Microsoft, which issues a specific release of a software package while working on future revisions that will be distributed later in another release with a higher "build" or version number
- ❖ helps to stage the priorities of the package's features and functions with user priorities or the costs, time, and scope of the system revisions.

The prototyping life cycle model:

- ❖ used for developing software prototypes to clarify user requirements for operational software
- ❖ requires heavy user involvement, and developers use a model to generate functional requirements and physical design specifications simultaneously
- ❖ Developers can throw away or keep prototypes, depending on the project
- ❖ Often used in systems that involve a great deal of user interface design, such as Web site projects, in systems that automate previously manual functions, or in systems that change the nature of how something is done, such as mobile applications.

The RAD life cycle model

- ❖ uses an approach in which developers work with an evolving prototype
- ❖ requires heavy user involvement and helps produce systems quickly without sacrificing quality
- ❖ Developers use RAD tools such as CASE (computer-aided software engineering), JRP (joint requirements planning), and JAD (joint application design) to facilitate rapid prototyping and code generation
- ❖ often used in reporting systems in which programmers enter parameters into software to generate reports for user approval.
- ❖ When approved, the same parameters will generate the final production system without further modification by the programmer.

Information System Development Phases

- ❖ The type of software and complexity of the information system in development determines which life cycle model to use. It is important to understand the product life cycle to meet the needs of the project environment
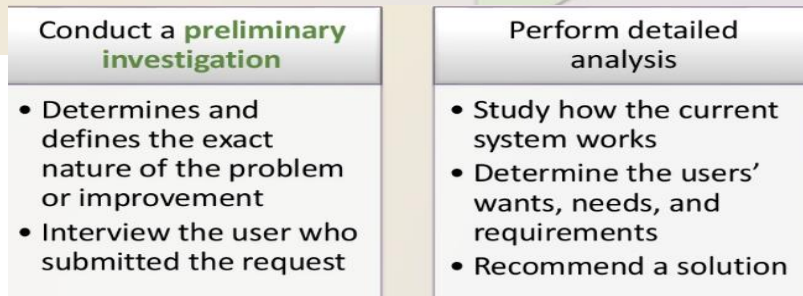

Planning

- • The planning phase for a project begins when the steering committee receives a project request. Four major activities are performed

Analysis

The analysis phase consist of two major activities:

Design

- ❖ The design phase consist of two activities:
- ❖ Acquire hardware and software consist of 4 steps:
1. Identify technical specifications
2. Solicit (ask for)vender proposals
3. Test and evaluate vender proposals
4. Make decision
- ❖ Next step is to develop detailed design specifications
- ❖ Includes:
  - ❖ Database design; input and output design; and program design
- ❖ Many people should review the detailed design specifications

❖ An inspection is a formal review of any system development deliverable – A team examines the deliverables to identify errors

Implementation
   ❖ The purpose of the implementation phase is to construct the new or modified system and then deliver it

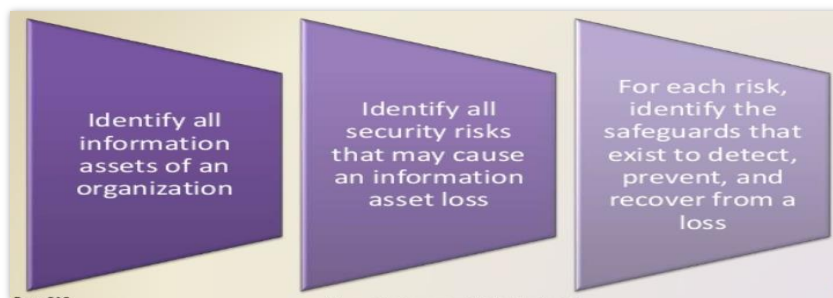| Develop programs	Install and test the new system	Train users	Convert to the new system
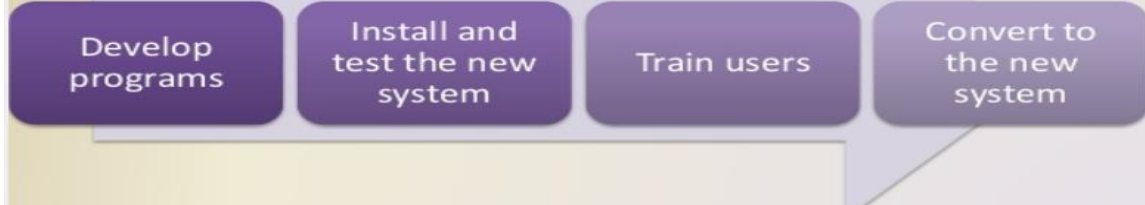
Operation, Support and Security
   The purpose is to provide ongoing assistance for an information system and its users after the system is implemented

Perform maintenance activities	Monitor system performance	Assess system security

A computer security program should do the following:

Identify all information assets of an organization	Identify all security risks that may cause an information asset loss	For each risk, identify the safeguards that exist to detect, prevent, and recover from a loss

Stakeholder Management

Project stakeholders are the people involved in project activities or affected by them. Stakeholders can be internal or external to the organization, directly involved in the project, or simply affected by the project
   ❖ **Internal project stakeholders** generally include the project sponsor, project team, support staff, and internal customers for the project. Other internal stakeholders include top management, other functional managers, and other project managers.
   ❖ **External project stakeholders** include the project's customers (if they are external to the organization), competitors, suppliers, and other external groups potentially involved in the project or affected by it, such as government officials or concerned citizens

Because the purpose of project management is to meet project requirements and satisfy stakeholders, it is critical that project managers take adequate time to identify, understand, and manage relationships with all project stakeholders

The four processes in project stakeholder management include the following:

1. Identifying stakeholders involves identifying everyone involved in the project or affected by it, and determining the best ways to manage relationships with them. The main output of this process is a stakeholder register.
2. Planning stakeholder management involves determining strategies to effectively engage stakeholders in project decisions and activities based on their needs, interests, and potential impact. Outputs of this process are a stakeholder management plan and project documents updates.
3. Managing stakeholder engagement involves communicating and working with project stakeholders to satisfy their needs and expectations, resolving issues, and fostering engagement in project decisions and activities. The outputs of this process are issue logs, change requests, project management plan updates, project documents updates, and organizational process assets updates.
4. Controlling stakeholder engagement involves monitoring stakeholder relationships and adjusting plans and strategies for engaging stakeholders as needed. Outputs of this process are work performance information, change requests, project documents updates, and project management plan update.