

A 3D rendering of a grey puzzle with one red piece in the center. The red piece is slightly raised and has a glossy finish, contrasting with the matte grey pieces. The text is overlaid on the red piece.


Initiating System Development and Project Management.

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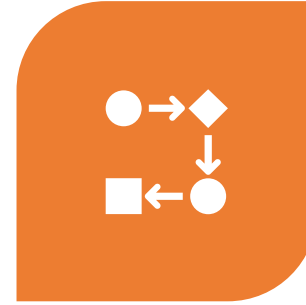


Learning objectives

- **After this lecture, you will be able to:**
 - explain the importance of conducting a structured initiation phase for a BIS project;
 - identify typical tangible and intangible costs and benefits associated with the introduction of an information system;
 - apply different techniques to select the most appropriate options from different software, hardware and supplier alternatives;
 - describe the importance of contracts to a successful outcome to information systems projects.



Initiation and feasibility



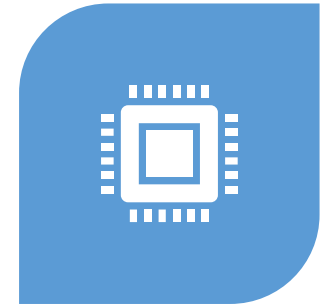
INITIATION PHASE: THE FIRST PHASE IN AN INFORMATION SYSTEMS DEVELOPMENT PROJECT.



ITS AIMS ARE TO ESTABLISH WHETHER THE PROJECT IS FEASIBLE AND PREPARE TO ENSURE THAT THE PROJECT IS SUCCESSFUL.



FEASIBILITY STUDY: THE ACTIVITY THAT OCCURS AT THE START OF THE PROJECT TO ENSURE THAT THE PROJECT IS A VIABLE BUSINESS PROPOSITION.



THE FEASIBILITY REPORT ANALYSES THE NEED FOR AND IMPACT OF THE SYSTEM AND CONSIDERS DIFFERENT ALTERNATIVES FOR ACQUIRING SOFTWARE.

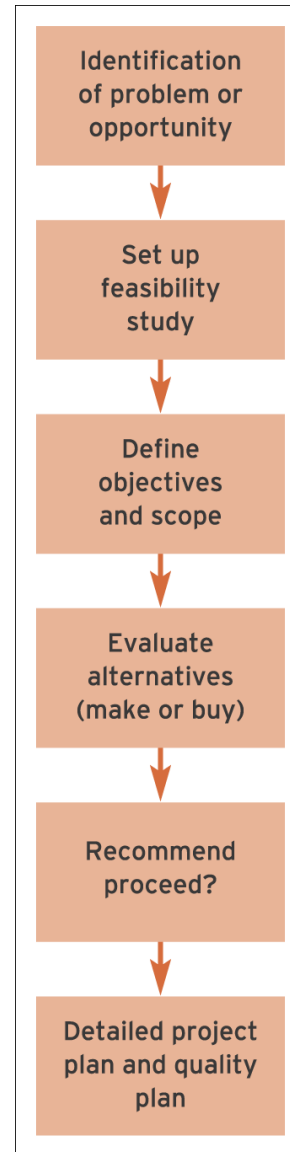


Figure 8.1 Sequence of main activities involved with project initiation

Initiation activities 1

<i>Activity</i>	<i>Purpose</i>
1 Assess feasibility	This is the most important aspect of the initiation stage. It involves performing a cost–benefit analysis and considering non-monetary considerations such as the effect that the new system will have on staff. An overall feasibility study may be conducted to establish the business reasons for proceeding, followed by a comparison of alternative technical solutions from different suppliers.
2 Define business objectives and outline systems requirements	Check that the system is aligned with business needs by defining critical success factors (CSFs) that must be achieved by incorporation of particular features.
3 Evaluate acquisition alternatives	This evaluation will cover different aspects such as cost, suitability and performance of systems from different suppliers, which may be either bespoke or ‘off the shelf’.

Initiation activities 1 (continued)

4 Define scope	This involves specifying system boundaries describing which parts of the organisation will be affected by the system. Will it be used in a single department, across the whole organisation or beyond with suppliers?
5 Define responsibilities	Since a large input to a project in areas such as defining the requirements and undertaking testing is from managers and users of the final system, time for their input must be set aside. Responsibilities of the system developers will also be specified.
6 Assess risks	Identify potential problems which may cause the project to fail, such as skills shortages or changes to the company's market. What precautions can be taken to ensure that the project doesn't fail?
7 Identify constraints and develop project plan	Use estimating and planning to develop an initial project plan. This will preview project size and complexity to establish a preliminary budget and timescale, which will be refined once the go-ahead for the project is given.

6Cs benefits of IS

<i>Benefit</i>		<i>Achieved through</i>
1	Cost reduction	Lower staffing requirements as online customers use e-commerce system for 'customer self-service'. Costs savings can be calculated for each online transaction.
2	Capability	A new capability to deliver banking services 24 hours a day, 7 days a week, 365 days per year.
3	Communications	The Internet provides a new communications channel with customers. SMS text alerts provide an alternative communications medium.
4	Customer service	Customer choice is provided by the new channel, but customers can still contact bank staff by traditional channels.
5	Control	Banks can monitor active and dormant online customers and persuade dormant customers to use the system more.
6	Competitive advantage	New services can attract new customers or help retain existing customers.

Feasibility type 1



Organisational feasibility: Reviews how well the solution meets the needs of the business and anticipates problems such as hostility to the system if insufficient training occurs. (Considers the effect of change, given a company's culture and politics.)



Question answered:

Will the system meet the business' needs and help improve its performance?



Technique used to control:

Critical success factors and key performance indicators.
Change management.

Feasibility type 2

Economic feasibility: An assessment of the costs and benefits of different solutions to select which gives the best value. (Will the new system cost more than the expected benefits?)

Question answered:

- Will the costs outweigh the benefits?

Technique used to control:

- Cost/benefit analysis
- Return-on-investment and payback calculations.

Costs and benefits

01

Tangible costs: A measure of cost can be calculated for each tangible cost.

02

Intangible costs: A monetary value cannot be placed on an intangible cost.

03

Tangible benefits: A definite measure of improvement can be calculated for each tangible benefit.

04

Intangible benefits: It is not possible to measure intangible benefits.

IS costs

Hardware and software purchase costs;



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graph TD; A[Hardware and software purchase costs;] --> B[Systems development staff costs if a bespoke or tailored solution is chosen;]; B --> C[Installation costs including cabling, physically moving equipment and bringing in new furniture to house the computers;]; C --> D[Migration costs such as transferring data from an existing system to the new system or running the new and original systems in parallel until the reliability of the new system is established;];
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Systems development staff costs if a bespoke or tailored solution is chosen;

Installation costs including cabling, physically moving equipment and bringing in new furniture to house the computers;

Migration costs such as transferring data from an existing system to the new system or running the new and original systems in parallel until the reliability of the new system is established;

IS costs



Operating costs including maintenance costs of hardware such as replacing parts or upgrading to new versions of software.



Staff costs in maintaining the hardware and software and trouble-shooting any problems must also be factored in.



Operating costs may also include an environmental audit of the amount of energy and consumables used;



Training costs;



Wider organisational costs, for example, redundancy payments may need to be made if computerisation leads to loss of jobs.

IS benefits



IMPROVED ACCURACY



IMPROVED AVAILABILITY AND
TIMELINESS



IMPROVED USABILITY (EASIER
TO UNDERSTAND AND THEN
ACT ON INFORMATION)



IMPROVED UTILISATION



IMPROVED SECURITY OF
INFORMATION

Feasibility type 3



Technical feasibility: Evaluates to what degree the proposed solutions will work as required and whether the right people and tools are available to implement the solution.



Question answered:

Will it work efficiently (performance, availability and stability)?



Technique used to control:

Risk analysis
Capacity planning
Performance and availability modelling.

Feasibility type 4



Operational feasibility: An assessment of how the new system will affect the daily working practices within the organisation.



Question answered:

Is the system workable on a day-to-day basis?

Will the system be accepted by end-users into their day-to-day work?



Technique used to control:

Risk analysis

Change management

Usability analysis.

Risk management

- **Risk management:** Aims to anticipate the future risks of an information systems project and to put in place measures to counter or eliminate these risks.

Risk factors



1. *PROJECT SIZE*



2. *PROJECT COMPLEXITY*



3. *PEOPLE ISSUES*



4. *PROJECT CONTROL*



5. *NOVELTY*

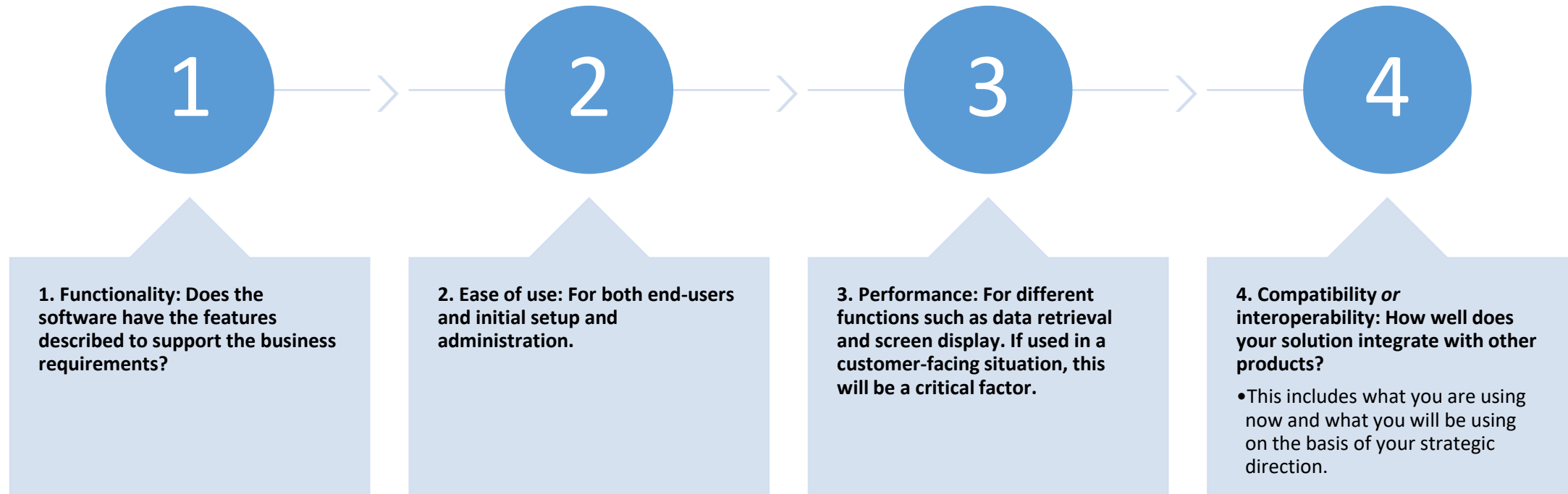


6. *REQUIREMENTS STABILITY*

Request for proposals (RFP)

- **Request for proposals (RFP):** A specification drawn up to assist in selecting the supplier and software.

8 Factors in selecting systems



8 Factors in selecting systems (continued)

5. Security: This includes how easy it is to set up access control for different users and the physical robustness of methods for restricting access to information.

6. Stability or reliability of product: Early versions of products often have bugs and you will experience a great deal of downtime and support calls, hence the saying 'never buy one dot zero'

7. Prospects for long-term support of product: For example if the vendor company is small or likely to be taken over by a predator, will the product exist in three years' time?

8. Extensibility: For example are the features available to accommodate your future needs?



Contracts

Contracts should define the following main parameters:

- business requirements and features of system;
- deliverables such as hardware, software and documentation;
- timescales and milestones for different modules;
- how the project is managed;
- division of responsibilities between different suppliers and the customer;
- costs and method of payment;
- long-term support of system.



Summary

Understand the importance of conducting a structured initiation phase for a BIS project;

identify typical tangible and intangible costs and benefits associated with the introduction of an information system;

different techniques to select the most appropriate options from different software, hardware and supplier alternatives;

describe the importance of contracts to a successful outcome to information systems projects.



Project Management
Relevant chapter in the
core text: Chapter 9



Topics to be covered

- Project Management
- Project Management Stages
- Project team
- Project planning basics
- Project planning techniques
- Project planning packages
- Project Barriers and Risks

Project management



What is a “Project” ?



Set of activities which ends with specific accomplishment and which has:

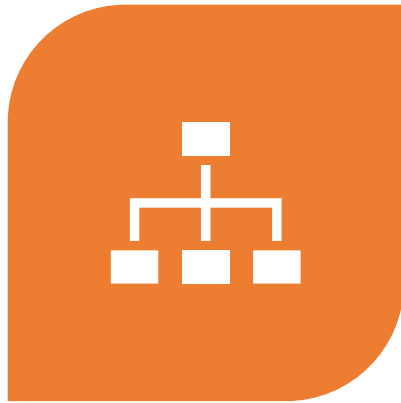


Non-routine tasks

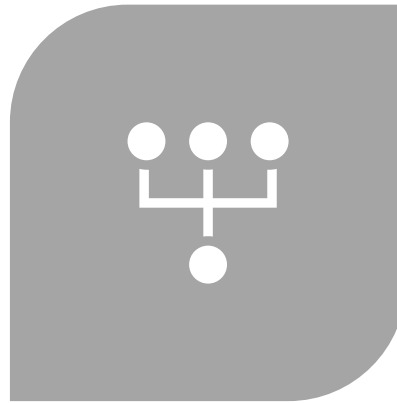


Distinct start/finish dates

Project management



PROJECT MANAGEMENT IS NO
SMALL TASK.



PROJECT MANAGEMENT HAS A
DEFINITE BEGINNING AND END. IT
IS NOT A CONTINUOUS PROCESS.



PROJECT MANAGEMENT REDUCES
RISK AND INCREASES THE CHANCE
OF SUCCESS.

Project Management : A Triangle

- The three most important factors are time, cost and scope, commonly called **the triple constraint**.



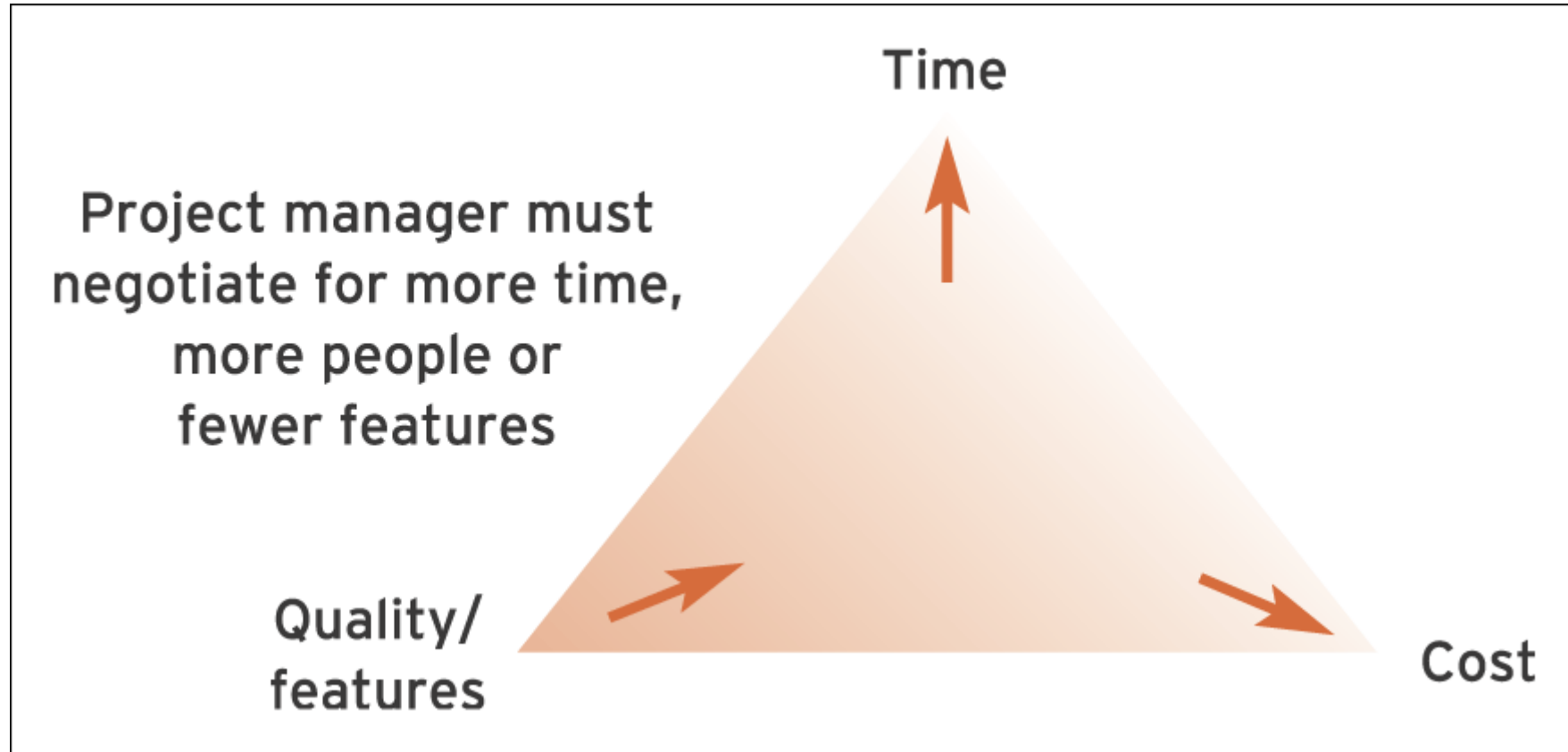


Figure 9.1 Three key elements of project management

A Triple Constraint

- Projects must be within **cost**.
- Projects must be delivered on **time**.
- Projects must be within **scope**.
- Projects must meet customer **quality** requirements.



Project Management Stages

1. **Project Definition:** Defining the goals, objectives and critical success factors for the project.
2. **Project Initiation:** Everything that is needed to set-up the project before work can start.
3. **Project Planning:** Detailed plans of how the work will be carried out including time, cost and resource estimates.

Project Management Stages (6)

Project

- Project Execution: Doing the work to deliver the product, service or desired outcome.

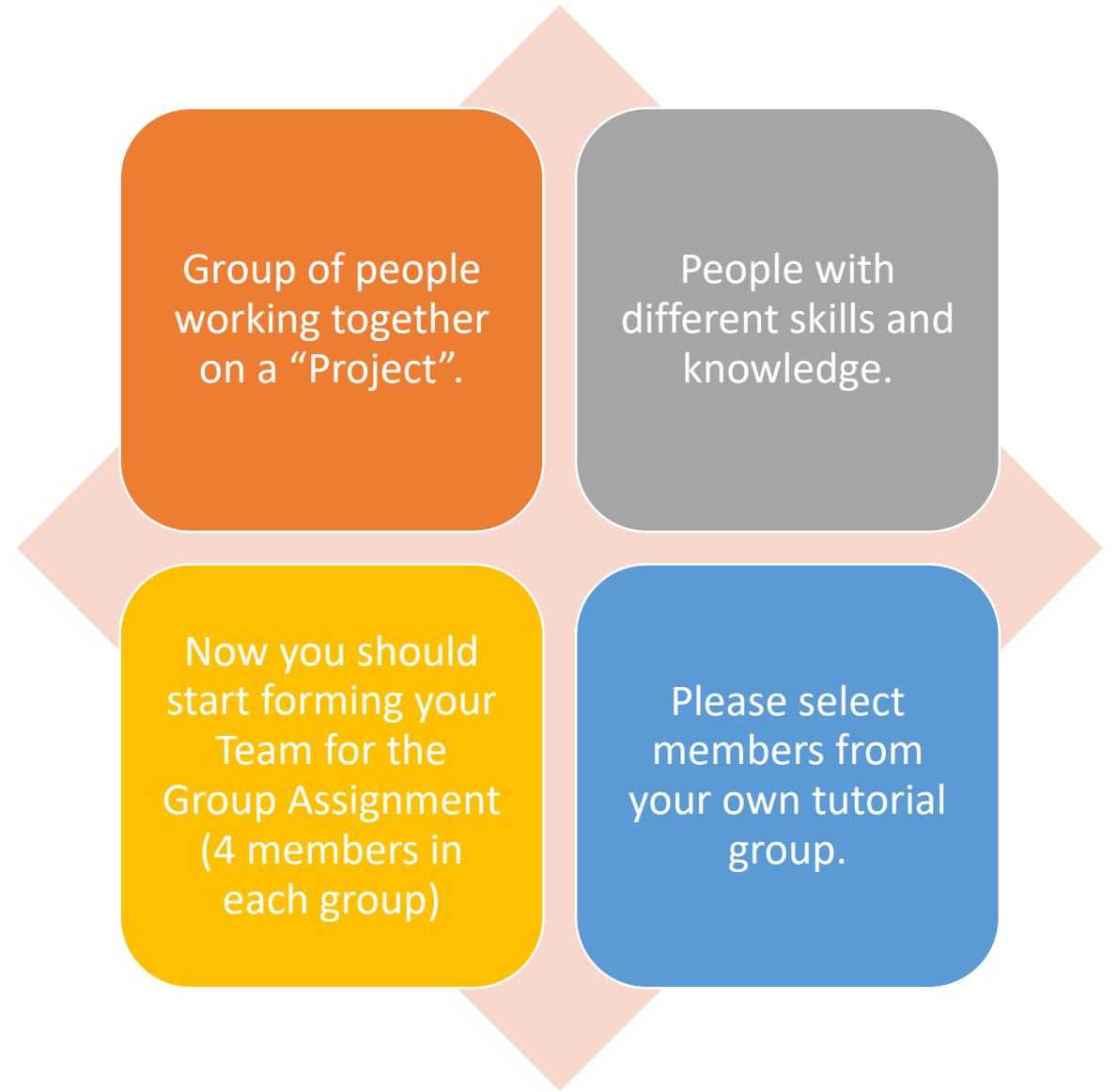
Project

- Project Monitoring & Control: Ensuring that a project stays on track and taking corrective action to ensure it does.

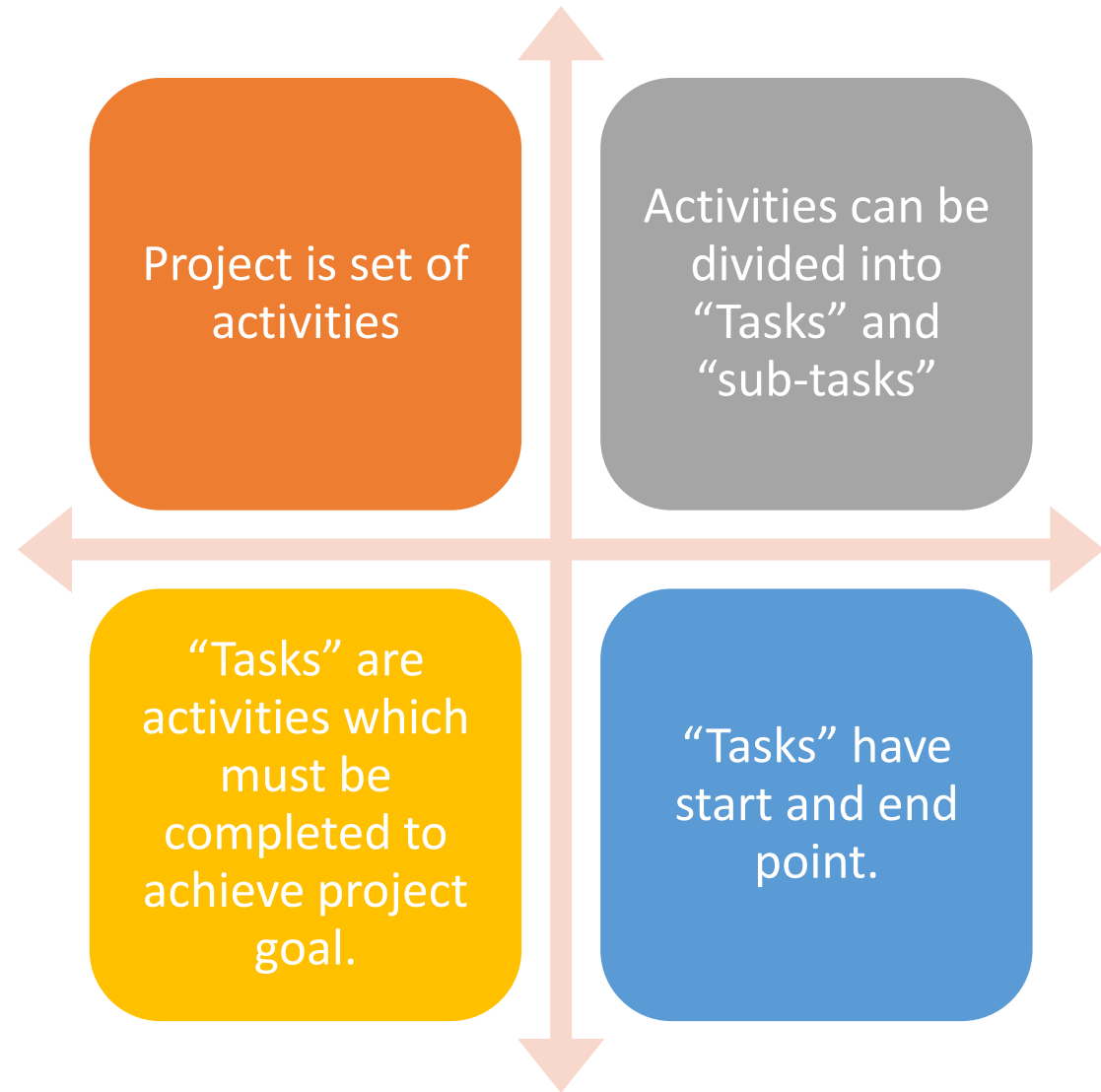
Project

- Project Closure: Formal acceptance of the deliverables and disbanding of all the elements that were required to run the project.

Project Team



Project planning basics



Project planning basics



Use action verbs for naming tasks.

e.g. “create”, “define” and “gather” rather than “will be made”.



“Milestones” are important checkpoints or interim goals for project.



Used for catching scheduling problem early.



Use noun-verb to name e.g. “report due”

The challenge

- A recent study questioned 1500 IT project managers across the UK in all industrial sectors. The outcomes of the survey are reported by Huber and found that
 - 84% of IT projects failed to hit their targets on budget, schedule and scope;
 - 45% of IT projects failed to complete on time;
 - 54% of IT projects failed to deliver on the planned-for functionality.

5 Reasons why projects fail.

1. **Technical failure** stemming from poor technical quality – this is the responsibility of the organisation's IS function.
2. **Data failure** due to
 - a) poor data design, processing errors and poor data management and
 - b) poor user procedures and poor data quality control at the input stage.

Why do projects fail? (continued)

3. **User failure** to use the system to its maximum capability – may be due to an unwillingness to train staff
4. **Organisational failure**, where an individual system may work in its own right but fails to meet organisational needs as a whole
5. **Failure in the business environment** – this can stem from systems that are inappropriate to the market environment, failure in IS not being adaptable to a changing business environment.



Project organisation

- **Project sponsor:** The project sponsor's role is to provide a justification of the project to senior management.
- **Project manager:** Appointed by the project sponsor, the project manager's role is to provide day-to-day management and ensure that the *project* objectives are met.
- **Project user:** The project user is the person or group of people who will be utilising the outcome of the information systems project.
- **Quality manager:** This role involves defining a plan containing procedures that ensure that quality targets are met.
- **Risk manager:** All projects contain some risk that the investment made will not achieve the required business objectives.



Project management process

The project management process includes the following main elements:

- estimate
- schedule/plan
- monitoring and control
- documentation.



Estimation

- **Estimation:** Estimation allows the project manager to plan for the resources required for project execution through establishing the number and size of tasks that need to be completed in the project.

Project planning techniques



Work Breakdown Statement (WBS).



Gantt Chart.



Minutes of meeting.



Task allocation.



Task evaluation.



Work Breakdown Statement

- WBS is a categorised list of tasks with an estimate of resources required to complete the task.

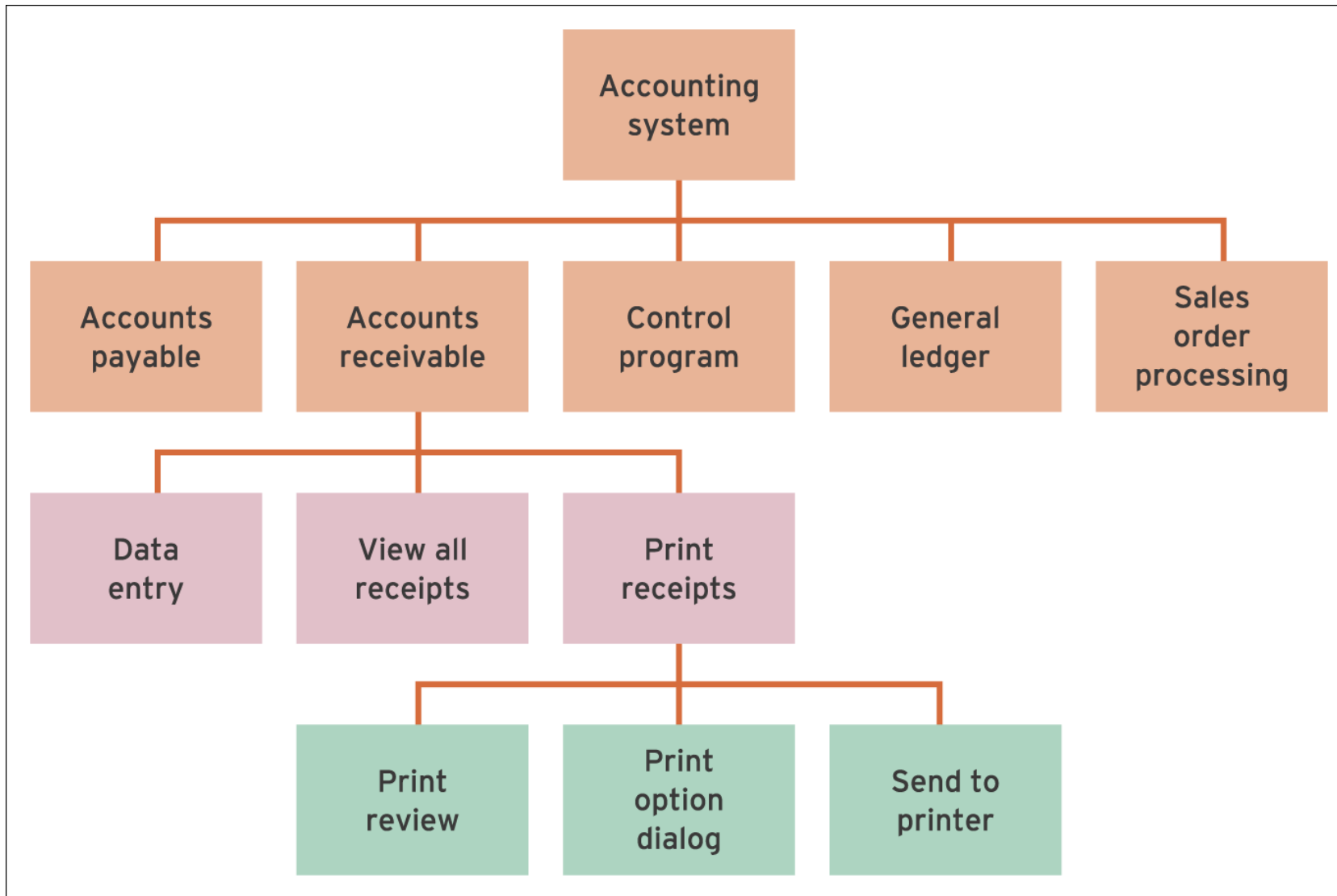


Figure 9.2 Work breakdown structure (WBS) for an accounting system



Gantt Chart



Gantt charts are project planning tool that can be used to represent the timing of the tasks required to complete a project.



Easy to construct.



Easy to understand.



Widely used.

Gantt chart



Each task takes up a row.



Dates run along the top in increments of days , weeks or months.

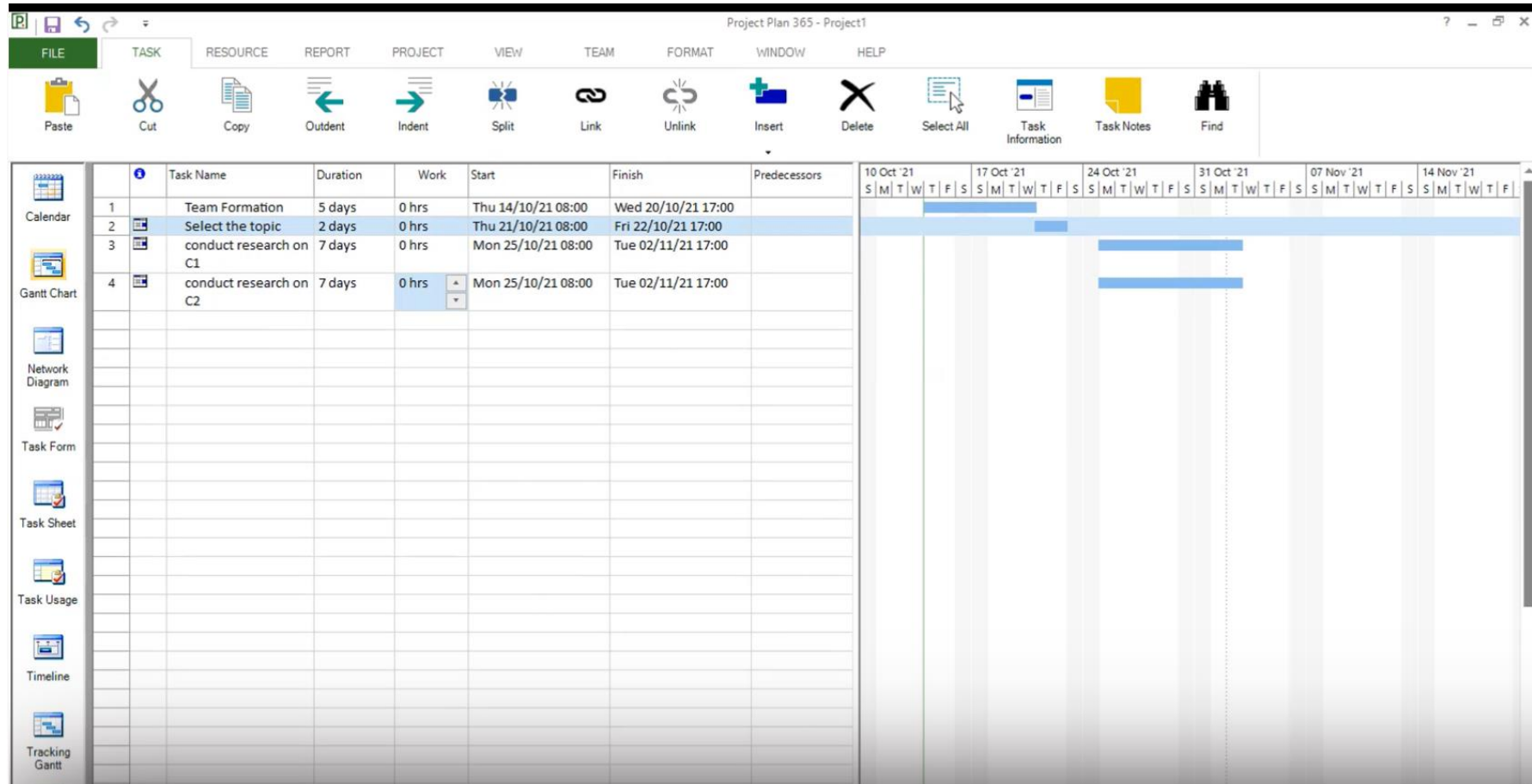



Expected time for each task is represented by horizontal bars.



Left side of horizontal bar represents beginning and right completion.

Gantt Chart Example 1





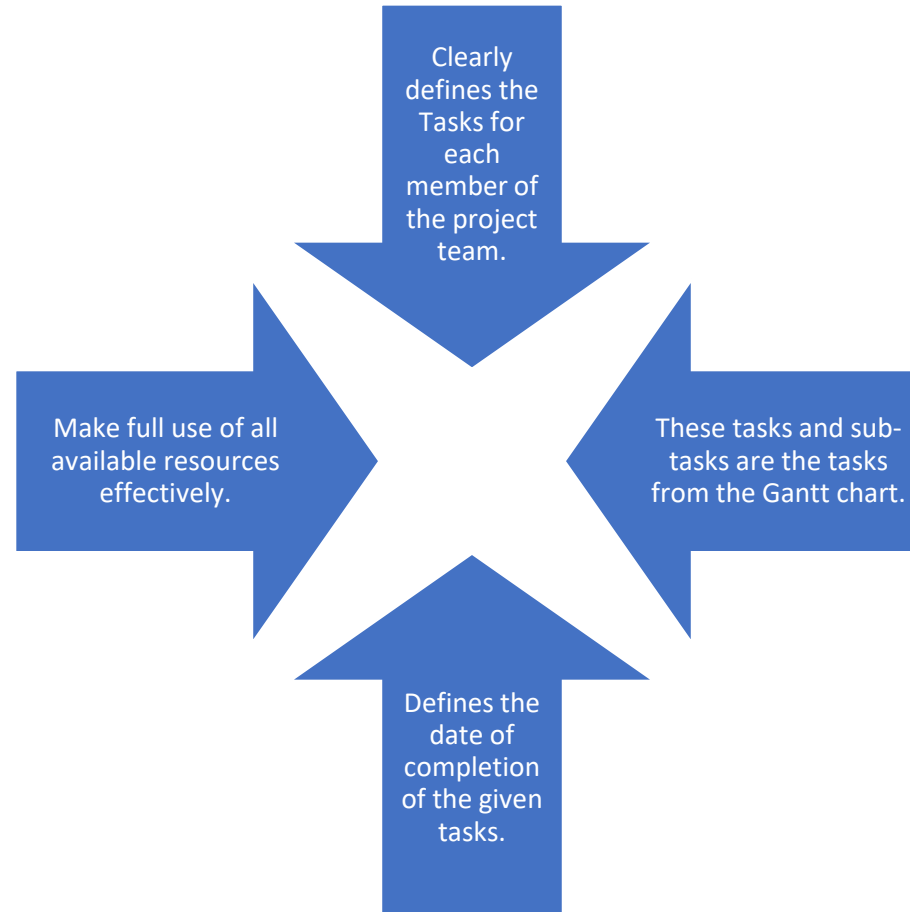
Minutes of meeting

Way of organising the Team.

Defines :

- Who is attending the meeting.
- When and where meeting will be held.
- Agenda of the meeting.
- Apologies
- Next meeting.

Task Allocation





Task Evaluation

- Critically analyse all the given tasks to each member.
- Evaluate if all tasks have been completed on time.
- Helps track if project is on the right schedule.



Project planning packages

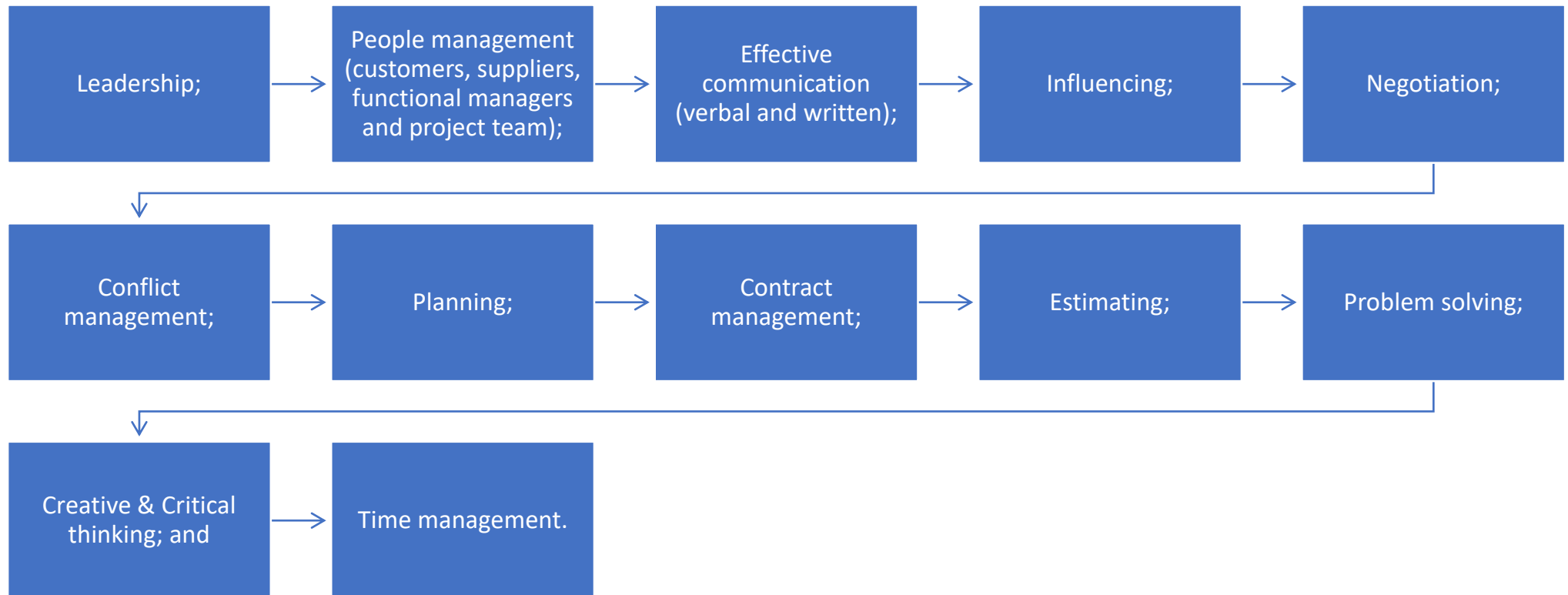
- Microsoft Project (MS Project).
- PRINCE2
- Project plan 365
- Excel.
- Third party software.



Project Manager

- It is the project manager's job to direct, supervise and control the project from beginning to end.
- Project managers should not carry out project work, managing the project is enough.

Project Manager's Skills



Project Management Barriers



POOR
COMMUNICATION;



DISAGREEMENT;



MISUNDERSTANDINGS;



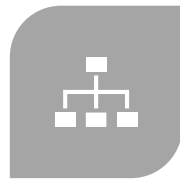
BAD WEATHER;



UNION STRIKES;



PERSONALITY
CONFLICTS;



POOR MANAGEMENT;
AND



POORLY DEFINED
GOALS AND
OBJECTIVES.



Successful Project



Completion of tasks on time.



Effective planning.



Monitoring.



Team management.



Team coordination and cooperation.

- Questions ?