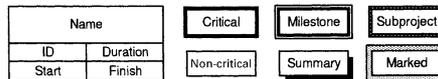


Figure 8.10 Critical path diagram.



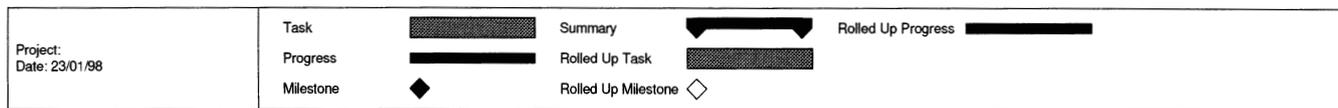
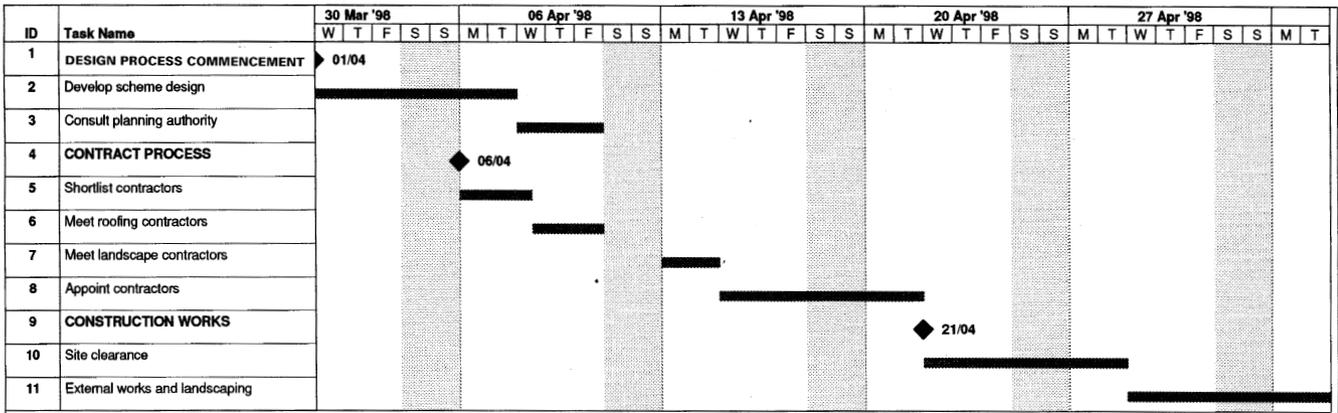
can be used as a powerful communication tool for improving the understanding of a project and for providing management focus. Gantt charts are used as project master programmes as they permit the organization of even the most complex project in manageable and measurable chunks of activities.

The project plan needs to be complemented by a cost plan. The objective of a cost plan is to provide the best estimate of the final cost of the project. It assists in planning when money will be spent and

on what. It is the basis of the final budget and the limit of expenditure. The cost plan should include a cash flow plan and payment profile based on the master programme. It should allow for contingencies, professional fees, direct costs and other operational costs. It also aids in setting up detailed cost control procedures for all stages of the project.

In planning a project it is important to realize that the involvement of the project team in the planning process is as important as the plan

Figure 8.11 Gantt chart for a building project.



produced. John Harvey-Jones, recollecting the experiences of a UK firm and a Japanese firm each charged with the responsibility of constructing chemical facilities for ICI of similar size and complexity, recounts that the UK firm's construction had reached the roof at eaves level before the Japanese team began site construction work. Yet, the Japanese team handed over a fully operational plant before the UK team finished. While the UK team was busily building the Japanese were still planning. A possible explanation of what was happening can be related to the planning system of 'Ringi' used by the Japanese.⁵ In this system, a proposal is passed around the responsible team, each member of the team being free to amend any part of the proposal. Every time the proposal is amended it is recirculated around the whole team, with each still able to amend in each iteration. The proposal is not finally adopted until every member of the team is able to subscribe fully to the proposal. When it is finally adopted, each is committed fully to its implementation.

Whatever implementation system is used, it is clear that effective teams lead to successful projects. Although project management is strongly associated with control systems, project management is also about integrating a group of people, gaining their commitment and motivating them towards clearly established goals. The project team, on the other hand, should be geared towards supporting the project manager in carrying out his/her responsibilities. For a project team to function properly, it is necessary that the project team concept is conveyed to all concerned. Clearly defined and measurable project objectives, as well as clearly identified roles and responsibilities of each team member, provide the formula for a successful team.

Team members are often unaware of how their contributions affect the project and on many occasions team members tend to become defensive and keep to themselves any problems they may have with the project. They then solve their own problems in an independent way. This can be

avoided by conveying a common understanding of the project and ensuring that the team members are aware of the inter-relationship between all tasks and activities. The use of the work breakdown structure, the project network and critical path as communications tools can illuminate everyone's contribution to the project objectives. It is wise to promote teamwork by involving the project team in problem solving and brainstorming, undertaking social activities, encouraging feedback within the team, carrying out regular performance reviews of all team members and developing the team through team-building exercises. The promotion of a working environment which encourages an interchange of ideas and shared responsibility will ultimately benefit the project.

It is recognized above that setting clear objectives is the first step in ensuring that the project team operates as an effective and focused unit. Objectives should therefore be realistic, challenging, worthwhile, agreed and written down. The acronym SMART is used to describe an approach to objective setting. It is used to ensure that objectives are properly set. SMART stands for: specific, measurable, achievable, relevant (to the project objective), and timed (with clear timescales and deadlines). A high level of commitment is best achieved when all members of the team are involved in the setting of clear and measurable objectives.

To ensure that all the details concerning the project and key documentation are kept together it is normal practice to create a project handbook. The project handbook provides a central point of reference for up-to-date project documentation and should be accessible to any person authorized by the project manager. All details concerning the project should be maintained in the project handbook, properly organized into relevant sections. Some of the sections that a project handbook should include are shown in Figure 8.12. The project handbook should be established at the beginning of every project and should be kept up-to-date throughout a project's life cycle.⁶