Tool: Gantt chart (HL)

Businesses are often engaged in project work. Projects involve a defined piece of work that has the following elements, which are also constraints:

- **Deliverable.** This is the end result of the project. It could be a tangible product, or it could be an intangible outcome such as a change to the organisation. Deliverables usually have required characteristics or qualities. These requirements are design constraints on the project outcome.
- **Time period.** A project has a time allocation with a beginning and an end. There may be rewards for staying within a time constraint or penalties for exceeding it. Internal customers in the business may also be relying on the completion of a certain project in order to do their own work.
- **Resources.** Physical, human and financial resources are required to complete a project. These can also place constraints on the project outcome by limiting the inputs.

All of these elements and constraints need to be planned and managed, which can be very difficult with a large, long-lasting, complex project.

A Gantt chart is a business management tool that illustrates a project plan. **Figure 1** shows a sample Gantt chart outlining the tasks involved in writing the IBDP Business Management internal assessment. The numbered columns represent the weeks of the project, where 1 is the first week, 2 is the second week, and so on.

Business management internal assessment	1	2	3	4	5	6	7	8	9	10
Develop 2–3 research questions for teacher feedback or discussion. Include concepts, tools/theories and potential sources for the IA.										
Choose a topic.										
Prepare and maintain/edit a bibliography list of works cited.										
Finish secondary research, and possibly primary research as well. Prepare supporting documents.										
Write an introduction and prepare an analysis outline for teacher feedback/discussion.										
Write an analysis and evaluation.										
Write a conclusion. Submit full first draft to teacher for feedback.										
Revise draft with teacher's feedback, proofread. Check in-text citations, bibliography, and supporting documents.										
Submit final internal assessment.										

Figure 1. A sample Gantt chart for the internal assessment project, showing the tasks to be completed over 10 weeks.

As **Figure 1** shows, there are two main sections of a Gantt chart. The first column lists the tasks that need to be completed in the project. The other columns, at a minimum, capture information about how long each task will take. This could be in hours, days, weeks, months, or even years. In the case of the Gantt chart in **Figure 1**, you can see that some tasks may take one week, while others may take two weeks. The maintenance of the bibliography/works cited list would be ongoing during the entire project.

Other information can also be included in a Gantt chart, such as:

- start and end dates
- people responsible for each task
- other resources needed, such as equipment and supplies
- information about whether one task is dependent on another
- milestones

Additional columns could be added for these to the Gantt chart between the tasks and time columns.

Gantt charts should be updated as work progresses. Often project tasks take longer than expected or outside resources may become unavailable. Updating the chart allows managers to continue to plan, share changes with a team and foresee potential

difficulties before they arise. They can help keep a project on track and reduce expenses that come with delays.

You learned about the human errors in judgement that result in project delays and higher costs in the Theory of Knowledge box in Section 3.9.2 (/study/app/y12-business-management-a-hl-may-2024/sid-351-cid-174702/book/constructing-a-budget-id-39333), which explains why project budgets are often exceeded.

Sometimes delays are caused by factors that cannot be controlled. In the process of housebuilding, for example, painting needs to be completed before the installation of heating units and kitchen cupboards. If the weather is rainy and humid, the paint will take longer to dry, so the project would be delayed. The project manager would then need to revise the Gantt chart.

Figure 2. Projects of all sizes, from writing an internal assessment to designing and constructing a building, can benefit from planning with a Gantt chart.

Credit: Kelvin Murray, Getty Images

Like the other tools, the utility of the Gantt chart is limited by the accuracy of the information recorded in it. A chart based on unrealistic or imprecise expectations is not useful. **Table 1** outlines some benefits and limitations of Gantt charts.

Making connections

You can find editable online templates that can be used to make Gantt charts. These save a lot of time when you want to create a project plan. You can also download and use this Gantt Chart template in the Download Button below.

Download(https://d3vrb2m3yrmyfi.cloudfront.net/media/edusys_2/content_uploads/Basic file Gantt Chart Template.df05cb42ac867d8c4460.pdf)

Table 1. Benefits and limitations of Gantt charts as a business management tool.

Benefits of Gantt charts	Limitations of Gantt charts
Big picture. The chart succinctly captures entire projects, making it easier to plan the sequence of steps.	**Estimates may be wrong.** The chart relies on estimates of the time needed to complete the steps of a project, which may change because of dynamic internal or external factors.
Time estimates. The chart gives a better estimate of the time needed for a project, because overlapping tasks can be more easily visualised.	**Does not capture all information.** The chart does not capture all the information about a project, such as the size or complexity of the work involved.