

Part Three

Some Common Types of Report

- ◆ Accident reports
- ◆ Agendas for committee meetings
- ◆ Annual reports
- ◆ Appraisal reports
- ◆ Audit reports
- ◆ Comparative testing reports
- ◆ Duty notes reports
- ◆ Explanatory reports
- ◆ Feasibility reports
- ◆ Informative reports
- ◆ Instructional manuals

- ◆ Interview reports
- ◆ Investigation into financial affairs of a company reports
- ◆ Minutes
- ◆ Process description reports
- ◆ Progress reports
- ◆ Research reports
- ◆ Scientific reports
- ◆ Student project reports
- ◆ Systems evaluation reports
- ◆ Technical reports
- ◆ Technological reports
- ◆ Trouble-shooting reports.

This section considers some of the most common types of report which you may be required to produce. They cover different subjects, and they have different purposes and readerships. For this reason they have different structures; they are made up of a variety of combinations of report components (introductions, summaries, and so on), and these components are often given different names in different types of report. Every report should have a title page.

In Chapter 1 we discussed report components in some detail. The comments here are intended to complement that discussion by pointing out the **particular emphases** associated with each report type. We shall do this by answering two questions:

1. What points should I bear in mind?
2. What would be a suitable format?

Use this information and advice to help you decide the most appropriate style, format and contents for your report. However, use them **flexibly**; you must also bear in mind:

- ◆ The requirements of the person who commissioned the report.
- ◆ House-style.
- ◆ Custom and conventions.
- ◆ Your objective(s).
- ◆ Your readership.
- ◆ Common sense.

As you plan and later draft your report, remember that while every report should be different, every report also should have some similarities. It must present relevant facts accurately and in a way that is both acceptable and intelligible to its readers. In other words, it must have a beginning, a middle and an end. Only then can you expect to achieve these three essential aims:

- ◆ to be read without unnecessary delay
- ◆ to be understood without undue effort
- ◆ and to be accepted.

So always think about the needs of your readers. They are the important people, and they have a right to expect you to make things as easy for them as possible. If you do not help them, why should they help you? Refer also to Appendix 1 to see how the style, layout and content of a report should reflect its overall purpose and readership.

ACCIDENT REPORTS

These reports hopefully will not be required on a regular basis.

What points should I bear in mind?

Balance speed with accuracy. The reason for speed is so that all salient facts are accurately recorded before details are forgotten. The reasons for accuracy are to minimise the risk of any possible recurrence, to comply with the law and to be prepared to face a possible claim for damages. You will require accurate illustrations supplemented by statements from participants, witnesses and experts.

What would be a suitable format?

If you have no formal report form, use these headings:

1. What was the accident?
2. Where and when did it occur?
3. Who was involved?
4. Was any injury sustained? If so, what was it?
5. Who reported the accident?
6. What medical treatment was applied – when and by whom?
7. What caused the accident?
8. What has been done to correct the trouble?
9. What recommendations do you have to avoid a recurrence?

AGENDAS FOR COMMITTEE MEETINGS

An agenda is a list of items to be discussed during a meeting. It *must* be drawn up in advance.

What points should I bear in mind?

An agenda may take various forms, according to the requirements and, in some cases, the kind of meeting to which it refers. Be sure you know precisely what is expected of you. Here are two common forms of committee agenda:

- ◆ the standard agenda
- ◆ the discussive agenda.

The standard agenda simply lists the subjects to be discussed, and the order in which they will be taken.

The discussive agenda is designed to stimulate thought *before* and comment *at* the meeting. It is often used for 'one-off' meetings.

No business should be placed on an agenda unless it comes within the scope of the committee, and it is within the power of the committee to deal with it. Conversely, no relevant item of business should be omitted.

In deciding what to include on an agenda, bear these points in mind:

- ◆ Talk to the chairperson and other committee members who may have business to include.
- ◆ Refer to the minutes of previous meetings for any business or discussions which were then deferred, and for reminders of routine annual, half-yearly, quarterly or monthly recurring items.
- ◆ Keep a special file of documents which are likely to be required at the next meeting. Sort and arrange them before drafting the agenda.

Then think carefully about the order in which items should come up for discussion. Consider these factors when deciding the order:

- ◆ Refer to any rules governing the meeting which regulate the order in which items of business are dealt with.
- ◆ If there are no such rules, make sure the items are in a logical order. Wherever possible, the end of the discussion on one item should lead naturally on to the next.
- ◆ It is normally preferable to put routine business first.
- ◆ Try to place difficult or contentious items just after half-way through the agenda, with some simple, uncontentious items before and after them. This is known as a bell-curve structure. Begin with some items likely to achieve a consensus. Then move on to your more 'difficult' subjects. Conclude with more simple, uncontentious items so that the meeting will end amicably.

Make it easy for the committee members to find their way through the agenda by using these devices:

- ◆ Number all items consecutively, beginning with '1'.
- ◆ If separate documents are required for any item, quote the reference number under the appropriate heading together with the date of circulation. If they are to be circulated later, or handed out at the meeting, say so.
- ◆ Where an item on the agenda is being continued or carried forward from a previous meeting, quote the minute and date of that meeting.
- ◆ At the end of the agenda provide a checklist of the documents required for the meeting, in the order in which they will be needed.

Finally, obtain the chairperson's approval of the agenda *before* circulating it. This agenda will form the basis of the minutes of the meeting (see below).

What would be a suitable format?

Standard agenda

A suitable format for a standard agenda would be as follows:

1. Heading (including where and when the meeting will take place)
 2. Apologies for Absence
 3. Minutes of the Previous Meeting
 - 4.
 - 5.
 - 6.
 - 7.
 8. Any Other Business ('leftovers', not items that should have been discussed within section 4–7)
 9. Date of Next Meeting (also give the time and location)
 10. Papers Required for the Meeting (in the order that they will be needed).
- Items requiring the attention of the committee

Items 1–3 and 8–10 are standard. Between them come all other items requiring the attention of the committee.

Discussive agenda

A discussive agenda could be structured as follows:

1. Heading (including where and when the meeting will take place)

2. Introduction (what will be discussed, and why – keep it fairly general)
3. Scope (what are the boundaries of the discussion?)
4. Discussion points (list the items to be discussed and the reasons for discussing them)
5. Possible action (what options are open to the committee?)
6. Summary (the reason for the meeting; what it hopes to achieve and why members should attend and contribute)
7. Papers required for the meeting (in the order that they will be needed).

ANNUAL REPORTS

An annual report lists the achievements and failures of an organisation. It is a progress report in which every department is accounted for.

What points should I bear in mind?

The physical appearance of annual reports is crucial. For that reason they are usually prepared professionally. The cover and the first few pages must attract and then maintain the readers' interest. Make the cover attractive and eye-catching; keep the text well spaced and content not too heavy. Begin with some simple facts about the organisation and what it does. Use short paragraphs with bold print to emphasise the key points. Include illustrations to attract interest and to break up overbearing columns of figures. When you use photographs of people, record their names. Too many reports give the name of their chairperson but then describe a member of staff as 'an engineer', or whatever. Workers, like chairpersons, have names.

As a general rule, the shorter the report the better the chances of attracting a fringe readership. So make sure you gather *relevant* data from all parts of your organisation. Obviously every department will wish to emphasise its successes and gloss over (or simply ignore) its failures. For this reason the use of standard questionnaires is recommended. This will provide only the information you require, and it will be in a uniform format and style. Use this as the basis of the main body of the report.

Annual reports usually include a chairperson's statement. Most of these statements are far too long. Tactfully explain that all that is required is a résumé and critical analysis of the past year's work, and an assessment of prospects. This section should pass logically from topic to topic. It should be informative, businesslike and balanced. It should also be concise – no more than 1,000 words (less if possible).

What would be a suitable format?

This depends on the nature of the organisation and the readership. Here is one possible format:

- ◆ contents list
- ◆ what the organisation does
- ◆ some of the year's highlights
- ◆ chairperson's statement
- ◆ main body (possibly department to department, or task to task)
- ◆ accounts
- ◆ appendixes.

A standard format is useful for year-to-year comparisons.

APPRAISAL REPORTS

These appraise a person's performance in his or her current job, identify methods of improving this performance, highlight training needs, and often assess suitability for another job, promotion, and/or a change in salary.

What points should I bear in mind?

Appraisal reports are very important because what you write will have a direct effect on people's career prospects. They are very difficult to write. The dilemma is that, on the one hand, you need to know a person quite well in order to write a fair report while, on the other hand, it can be difficult to be objective when you know a person quite well. Not only that, you will need to decide what is relevant and what is not. For example behavioural patterns are likely to change according to circumstances, and we tend to remember extremes of behaviour. Ask yourself: 'Are they really typical?' Try keeping a notebook and update it regularly in order to build up an accurate and balanced picture of people. Also talk with them about this throughout the year, not just at counselling and appraisal interviews.

The responsibilities of an appraisal report writer, therefore, are acute. Be specific and avoid euphemisms. You must be able to justify every tick in the matrix boxes, and every word and phrase you use.

What would be a suitable format?

You may be required to complete a standard form. Details will vary from organisation to organisation, but the broad outline of an appraisal report should cover the following headings and questions:

1. The Job

- ♦ The job description, its objectives, component tasks, methods and resources.

- ◆ Are they satisfactory?
- ◆ If not, why not?
- ◆ What changes are required?
- ◆ What action is recommended – by whom, how and why?

2. Job Performance

- ◆ What objectives must be met and what tasks must be fulfilled?
- ◆ Have these been achieved?
- What is the actual evidence from work performance, indicating success or failure?
- ◆ How far have any failures been within or outside the job-holder's control?
- ◆ What does the evidence of past performance show about the strengths and weaknesses in knowledge, skills and attitudes of the job-holder?
- ◆ What precise action is recommended – by whom, how and when – to build on strengths, to remedy weaknesses and to develop the individual by means of training and further work experience?

3. Summary of Action Proposed

- ◆ What action has been agreed to be taken by whom, how and when?

AUDIT REPORTS

There are two types of auditor: the external auditor and the internal auditor. The role of the former is laid down by statute and in case law; that of the latter, while also affected to some extent by case law, is ultimately what management wants it to be. Therefore the

structure of audit reports will depend on the type of audit work being undertaken.

External auditors are independent of the companies on which they report. They are required to report to the shareholders at general meetings on whether the final statements of a company give a 'true and fair view' of the state of the company's affairs. If they are uncertain, or if they do not believe this to be so, they must say so in what is known as a **qualified audit report**. It is now normal practice also for external auditors to issue **reports to management** which are more akin to internal audit reports.

Internal auditors are concerned with the segregation of duties and the internal control of the business for which they are employed. The structure of their reports tends to be fairly consistent, but it is *not* defined by any Auditing Standards.

What points should I bear in mind?

In a few words the external auditor commits himself or herself to a high degree of responsibility. If the contents of the report do not reflect the due care, skill and diligence expected of a qualified person, the auditor may be held liable for damages. It is essential, therefore, that the report should be carefully prepared to reflect an opinion within the limits of the examination, and sufficiently clear as to leave no likelihood of misinterpretation by those whom it concerns.

The internal auditor does not face such an onerous responsibility because the report is not written for the same audience – it is for internal consumption (although the external auditor may decide to place some reliance upon it). However, like all report writers, the internal auditor must always strive for objectivity and accuracy.

What would be a suitable format?

The usual format for an external audit report on the financial statements of a company incorporated in Great Britain is as follows:

1. Introduction
2. Respective responsibilities of directors and auditors
3. Basis of opinion
4. Opinion.

An external auditor's report to management will include any or all of the following sections:

1. Weaknesses in internal control and recommendations on how they may be rectified.
2. Breakdowns in the accounting systems and any material errors arising.
3. Additional audit time required as a result of either section 1 or 2, or the client's failure to adhere to timetables.
4. Unsatisfactory accounting procedures or policies, and recommendations as to how they may be improved.
5. Suggestions as to how financial and accounting efficiency may be improved.
6. Constructive suggestions not necessarily related to accounting procedures but noted by the auditor during the course of his or her investigations, with the benefit of an outsider's viewpoint.

A suitable format for an internal audit report is as follows:

1. Contents page

2. Summary (the main findings, conclusions and recommendations)
3. Introduction (what broad subjects were audited, where and when)
4. Scope (what precisely was audited, and possibly what was not)
5. Main body (the findings, divided into logical sub-sections)
6. Conclusions (flowing naturally from the main body)
7. Recommendations (flowing naturally from the conclusions)
8. Appendixes.

COMPARATIVE TESTING REPORTS

Perhaps the best known of these reports is *Which?* magazine. Its purpose is to select a number of standards, make comparisons of these standards from item to item, and then reach logical conclusions and recommendations about which are the best and/or which represent the best value for money.

What points should I bear in mind?

It is essential to choose *sensible* standards and then to define them very carefully at the beginning of the report. Here are some standards important in any well-designed product:

- ◆ Does it work properly? A pop-up toaster should pop up toast.
- ◆ Is it fit for its purpose? A portable television should be portable.
- ◆ Can it cope with the likely conditions of use? A public telephone should be vandal-resistant.
- ◆ Is it durable and easy to maintain for its expected lifespan? For example, are spare parts readily available?
- ◆ Is it safe and easy to use? A cooker should have no sharp edges and its controls should be clear.

- ◆ Is it pleasing to look at and to handle? Wallpaper must be attractive to potential customers.
- ◆ Does it have 'style'? A well-designed product combines a careful choice of colours, patterns and textures. It should be aesthetically pleasing.

Obviously the precise standards you choose will depend on the items being compared. Here are some examples of standards important when choosing a telephone:

- ◆ target price (comparing similar models)
- ◆ colour options
- ◆ features:
 - last number redial
 - number of memories
 - a display
 - battery back-up
 - weight of handset
 - maximum loudness of ring.

What would be a suitable format?

There are two basic ways of presenting these reports. The first is to define the first standard and then compare the performance of each item before moving on to the next standard. The second is to name the first item and then record how it matches up to various standards, before moving on to the next item.

There are three customary formats for comparative testing reports, as follows:

Comparison by Standard – Format A

1. Contents page
2. Introduction
3. Explanation and description of items to be compared
4. Comparison by Standard:

Standard A

- Item (i)
- Item (ii)
- Item (iii)

Standard B

- Item (i)
- Item (ii)
- Item (iii)

Etc.

5. Conclusions
6. Recommendations.

Comparison by Standard – Format B

1. Contents page
2. Introduction
3. Summary of Standards and Data
4. Conclusions
5. Recommendations
6. Appendixes

- (i) Explanation and description of items to be compared
- (ii) Comparison by Standard A:
 - Explanation of Standard A
 - Comparison of items
- (iii) Comparison by Standard B:
 - Explanation of Standard B
 - Comparison of items

- Etc.

Comparison by Items

1. Contents page
2. Introduction
3. Explanation of Standards
4. Comparison by items:

Item (i):

- Standard A
- Standard B
- Standard C

Item (ii):

- Standard A
- Standard B
- Standard C

Etc.

5. Conclusions
6. Recommendations.

If the comparison requires quite sophisticated technological investigation, you should also consider the use of formats B or C of **Technological Reports**.

DUTY NOTES REPORTS

See **Instructional Manuals**.

EXPLANATORY REPORTS

These are *factual* reports which provide an account of something that has happened.

What points should I bear in mind?

You must be unbiased and objective. Do not give any recommendations unless you are asked to do so.

What would be a suitable format?

This is a suitable format for an explanatory report:

1. Contents page
2. Introduction
 - Why was the report prepared, and who requested it?
 - Give a 'pen picture' of whatever has happened.
 - What is the position and authority of the writer?
3. Persons involved
 - Give their names and positions, where relevant.
4. Sequence of events
 - A simple, straightforward account of what happened.
5. Action taken
 - List all the critical actions taken in the order in which they occurred and the reasons for them. If necessary use appendixes.
6. Cause and effect
 - What were the causes and effects of these actions?
7. Conclusions
 - How was the information for the report gathered?
 - How long did this take?
 - What degree of accuracy can the reader reasonably assume?
 - Are any important facts omitted
 - If so, why?
7. Recommendations
 - If required.
9. Appendixes
 - See section 5.

See also **Informative Reports**.

FEASIBILITY REPORTS

These discuss the practicality, and possibly the suitability and compatibility of a given project, both in physical and economic terms. They also discuss the desirability of the proposed project from the viewpoint of those who would be affected by it. Report writers must come to a *conclusion*, and must *recommend* that some action is taken or is not taken and/or that some choice is adopted or is rejected.

What points should I bear in mind?

You must be unbiased and your approach must be logical. Be sure that you know the precise purpose of the proposed project and also its scope. See also **Systems Evaluation Reports**.

What would be a suitable format?

This is a suitable format for a feasibility report:

1. Abstract
2. Summary
3. Contents list (including a separate list of illustrations)
4. Glossary
5. Introduction (purpose and scope)
6. Discussion (the main body providing the evidence – use appendixes if necessary)
7. Conclusions (flowing naturally from the discussion)
8. Recommendations (flowing naturally from the conclusions)
9. References (if necessary)
10. Appendixes (see section 6).

Sometimes sections 1 and 2 are combined.

INFORMATIVE REPORTS

These are more general than explanatory reports (see above), but there is a degree of overlap. The purpose of an informative report is to increase the readers' knowledge of an event or to bring them up to date.

What points should I bear in mind?

You must present a clear overall theme. Each section of the report must be appropriate to this theme; there must be a good reason for including it. It is important to provide a logical plan because some readers may be interested in perhaps just one or two sections of the report.

What would be a suitable format?

This is a customary format for an informative report:

1. Contents page
2. Introduction (why was the report produced and what is hoped to be achieved by it?)
3. Plan (how the Main Body is structured)
4. Main Body (possibly one subsection for each main piece of information)
5. Conclusions (flowing naturally from the Main Body – also what, if anything, is it hoped will happen next?).

Sometimes sections 2 and 3 are combined. See also **Explanatory Reports**.

INSTRUCTIONAL MANUALS

Instructional manuals and duty notes are written to explain *how* a job or process (or perhaps how a particular aspect of a job or a process) is to be performed.

What points should I bear in mind?

Good instructional manuals and duty notes are written by people who know the job or process well. They know how much detailed instruction to include, and how much to leave out. Once you have drafted your instructions, try them out first on someone who is likely to use the report.

Do not confuse instructional manuals with **Process Description Reports**. As already stated, the former explain *how* a process is to be performed; the latter help the reader *understand* that process. So be absolutely sure of your purpose before deciding on a suitable format.

What would be a suitable format?

This is a typical format for an instructional manual or a set of duty notes:

1. Contents page
2. Job/Duty/Process objective (a brief statement of subject, purpose and scope)
3. Theory or principles of the operation (the mechanics of the process)
4. List of materials and equipment needed
5. Description of the mechanism (an overview of the equipment, possibly breaking it into its component parts)
6. List and number of steps necessary to complete the job
7. Instructions for each step (the main body)
8. Precautions necessary (explain why)
9. Show what must be done (use illustrations to support section 7)
10. The degree of difficulty at each stage.

Sections 3–5 and 8 are often omitted from clerical duty notes.

INTERVIEW REPORTS

Effective interviewing techniques are not within the scope of this book. However, a brief discussion on the preparation of interview reports is appropriate.

What points should I bear in mind?

Clear and adequate reports are essential to an interviewer who seeks a detailed and accurate recall and evaluation of interviewees (perhaps job applicants). Interviewers who lack the technique of interview report writing will merely attempt to rationalise their decision.

There are two types of interview report. The first is designed to ensure that an interview is well-structured, comprehensive, and that adequate and relevant notes are taken. The second is used to evaluate the material gathered during the interview.

What would be a suitable format?

The following format provides a useful framework for an interview. There will also be several sub-subheadings which are not given here. However the framework must be used with discretion. A good interview is **organic**, not mechanical.

A Structured Interview Report

1. Interviewee, interviewer, reference, date, time and location
2. Physical:
 - First impression
 - Appearance
 - Speech
 - Health
3. Attainments:
 - Work
 - Educational
 - Extramural

4. Interests
5. Circumstances:
 - Family background
 - Domestic and social situation.
6. Special aptitudes
7. General intelligence
8. Disposition.

After the interview the interviewer will need to evaluate the interviewees. This report format will be of assistance:

An Interview Evaluation Summary Report

1. Interviewee, interviewer, reference, date, time and location
2. Able to do
3. Willing to do:
 - Disposition
 - Motivation
4. Summary
5. Recommendation.

Before sections 2 and 3 can be completed the candidate will first be given a raw score of 1-5 (poor to outstanding) for every ability and willingness raised by the interviewer. However, as some of these qualities will be more important to the job than others, they will all be given a weighting, or relative importance score (often 1-7; useful to vital). The raw score will then be multiplied by the weighting, and the separate products will be totalled.

The top scorer is not necessarily the best candidate. For example, there may be a minimum total required for some or all the qualities, and these may not have all been met. However, this method does force the interviewer to think about the specific requirements of the job, and about how far the various interviewees meet them.

INVESTIGATION INTO THE FINANCIAL AFFAIRS OF A COMPANY REPORTS

There are numerous types of investigation – some private (for example, ones undertaken on behalf of a prospective purchaser of a business); others governed by statute (for example, reports for prospectuses and for Department of Trade investigations).

What points should I bear in mind?

In the case of a private investigation, the accountant must obtain precise instructions from his or her client (the terms of reference). In the case of an investigation governed by statute, the reporting accountant must be fully conversant with the statutory regulations, and must also obtain necessary instructions where applicable.

Throughout the investigation never lose sight of your purpose. It is all too easy to become side-tracked. First make preliminary inquiries to ascertain the information that is necessary to be able to plan the investigation. Draft a skeletal framework, detailing the headings which will be used in the final report. Then undertake all the necessary detailed work, recording your findings on working papers. From these the final report will be drafted.

What would be a suitable format?

This will depend on the nature of the investigation, but a typical structure is as follows:

1. Introduction (including the terms of reference and the nature and history of the enterprise being investigated)
2. Main body (the work performed and the facts ascertained – see below)
3. Conclusions (drawn from the main body)
4. Recommendations (drawn from the conclusions)
5. Appendixes (any voluminous statistics).

In the case of an investigation into a retail business on behalf of a potential purchaser, section 2 – the main body – could be subdivided as follows:

- ◆ 2.1 Management and Staff
- ◆ 2.2 Sales and Marketing
- ◆ 2.3 Purchases and Supplies
- ◆ 2.4 Trade Results (per audited accounts)
- ◆ 2.5 Prospects and Trends
- ◆ 2.6 Assets and Liabilities.

MINUTES

Minutes can be defined as a written record of the business transacted at a meeting. They may well have some legal and authoritative force.

What points should I bear in mind?

As a general rule, the fewer the words used the better. Ask yourself, what was the **purpose** of the meeting? Minutes of a formal meeting must include: decisions taken, motions passed and the names of the people who attended. Those of a **standing committee** must provide enough information and discussion so that absent members can participate on equal terms at the next meeting. Minutes of a **subcommittee** must include enough to keep its parent committee in touch with developments and to explain the reasons for decisions.

Write in the simple past tense (Mr Smith reported that . . .), and as soon as possible after the meeting. Selective note taking at the meeting will greatly assist this process. Concentrate on *conclusions*. Do not record controversy; state what was decided.

The way minutes are numbered varies from organisation to organisation. Here are three common methods:

- ◆ consecutively, from the first meeting onwards
- ◆ consecutively, beginning each set of minutes with '1'
- ◆ and consecutively, beginning each year with '1'.

Check that your minutes:

- provide a true, impartial and balanced account of the proceedings;
- are written in clear, concise and unambiguous language;
- are as concise as is compatible with the degree of accuracy required;
- follow a method of presentation which helps the reader assimilate the contents.

Once the minutes have been drafted, ask the chairperson to check them. Then circulate them to anyone who will be expected to act upon them. It is a good idea to clearly identify these people by putting their names in an 'action' column on the right of the page and opposite the appropriate references in the text.

If someone asks for a correction, try to negotiate an acceptable form of words. However do not be fooled by people who want you to report what they *should* have said, not what they *actually* said. At the following meeting these minutes will be discussed and any arguments over them will be resolved. The chairperson will then sign them as correct.

What would be a suitable format?

Headings in the minutes of a meeting should broadly correspond with those which appear in its agenda, as follows:

1. Heading (including where and when the meeting was held)
2. Present (who was there)
3. Apologies for Absence (who should have been there, but was not)
4. Minutes of the Previous Meeting (note any corrections and state 'The minutes were accepted as a true record of the meeting [with the above corrections]')
- 5.
- 6.
- 7.
8. } Simple statements of what actually occurred at the meeting
9. Any Other Business (the 'leftovers')
10. Date of Next Meeting (also give the time and location).

PROCESS DESCRIPTION REPORTS

A process is a specific series of actions that bring about a specific result.

What points should I bear in mind?

It is important not to confuse instructional manuals (see above) with process description reports. The former explain *how* a process is to be performed; the latter help the reader *understand* that process. Process description reports are used to describe the following:

- ◆ how something is made
- ◆ how something is done (for information, not instruction)
- ◆ how a mechanism works
- ◆ how a natural process occurs.

The report is essentially chronological or sequential and it is most commonly used within the world of business and industry. Almost every such report will include illustrations.

What would be a suitable format?

A suitable format for a process description report would be as follows:

1. Contents page (with a separate list of illustrations)
2. Introduction (identify the process; record its purpose and significance; give an overview of the steps involved)
3. Main body (discuss each step in turn)
4. Summary (concentrate on the purpose and importance of the actions or the significance of the facts).

PROGRESS REPORTS

These are periodic reports which, as their name suggests, describe how some activity or process is progressing. They are often built up from workers' daily logs, supervisors' reports, and so on.

What points should I bear in mind?

Progress reports will be required in one of three circumstances:

- ◆ on a regular basis
- ◆ at certain times during an activity or process, or
- ◆ as and when required.

They record progress over a specific period of time, and they make comparisons from period to period by identifying changes and their underlying causes and effects. They are essential for effective decision making so they must be clear, accurate and unambiguous.

What would be a suitable format?

Most organisations have standard printed progress report forms, although headings vary considerably. Here is one simple format:

1. Introduction
 - the period of work covered
 - the work planned
 - the authority for the work
 - the progress to date
2. Main Body
 - the work completed
 - how the work has been completed
 - the work planned for the future
 - an overall appraisal of the progress to date.

RESEARCH REPORTS

The purpose of a research report is to extend our understanding of the world by reducing uncertainty and increasing our understanding of it.

What points should I bear in mind?

Results alone are never enough. As you will see from the typical format described below, you must be able to assess and then evaluate the *reliability* of the results. You must say precisely how the work was carried out, what methods were used to collect the data, and how it was analysed. Conclusions and recommendations must be drafted with great care.

What would be a suitable format?

This is a typical format for a research report:

1. Contents page
2. Introduction
 - Set the scene; give a clear statement of the objectives and scope of the research.

- What was known about the subject at the beginning of the research?
 - Put the project into its proper context.
 - Give the reason(s) for the research.
 - Discuss the events which led up to it.
 - Assess the importance of other, related work.
3. Work carried out
- Describe the overall shape and design of the research.
 - Describe the methods used (for example, sampling methods).
 - Describe the actual work carried out, probably in chronological order.
 - Explain how the results were analysed (for example, input to a computer).
4. The Results
- In an academic report, give full results (with an interpretation in a separate section).
 - In a non-academic report, you can omit some results (or at least put them in an appendix) and emphasise significant results.
 - Concentrate on each objective of the research in turn.
 - Structure your results around these objectives.
 - Discuss the results; form links; build up an overall picture.
 - Distinguish 'facts' from interpretations, inferences, predictions or deductions.
5. Conclusions
- Make sure they flow naturally from the results.
 - Each one must be supported by your findings and/or other research.
 - If no clear picture has emerged, then say so.
 - Do not see relationships that do not exist.
6. Recommendations
- These should flow naturally from your conclusions, with no surprises.

7. Appendixes

- Include items which would disturb the flow of the report (for example, survey forms and questionnaires).

SCIENTIFIC REPORTS

A scientific report consists of an account of a test or experiment, of its findings, and of its conclusions.

What points should I bear in mind?

Before you can write the report, you must carry out the test or experiment accurately and you must record your results as you proceed.

Here are some points to bear in mind:

- ◆ Make sure you understand the purpose of the test or experiment.
- ◆ If you are not familiar with the relevant theory, look it up before you start.
- ◆ Make sure you select appropriate equipment with reference to its accuracy, sensitivity and safety. Ensure you know how the equipment works, and then set it up in the most sensible way for you to make all the required measurements and observations.
- ◆ Carry out the test or experiment, recording *every* observation as you proceed. Ensure you observe and record accurately.
- ◆ Always record the units of measurement. All readings must be consistent, for example to two decimal places.
- ◆ There is no point in giving a reading of, say, 0.2317mm unless you have a good reason to believe that it lies somewhere between 0.231 and 0.232mm. If you do not have good reason to believe this, then record the result only to the degree of precision to which you have confidence – perhaps 0.23mm.

- ◆ Record the estimated limits of error. If a spring can measure with an accuracy of plus or minus 0.1mm, you should record this as, say,

$$\text{length of spring} = 21.7 \pm 0.1\text{mm}$$

- ◆ If you add a mass to the spring and re-measure, the error could be plus or minus 0.1mm on both figures; so record this as, say,

$$\text{change of length of spring} = 14.9 \pm 0.2\text{mm}$$

- ◆ Calculate the results and draw any necessary rough graphs in pencil. If the results are unreasonable or inconsistent (out of line), then make the tests again.
- ◆ Form a conclusion based on your accumulated evidence.
- ◆ Write the report.

What would be a suitable format?

This is the usual format for a scientific report:

1. Name of class, group or department; experiment number; reference; date and time
 - The time is relevant only if it is likely to affect results (for example, was barometric pressure a factor?).
2. Title of experiment.
3. Summary (or Abstract or Synopsis)
 - A brief statement about the structure of the report; why the experiment was carried out; what you found, and the significance of what you found.
4. Contents page.
5. Introduction
 - Your purpose and scope.
6. Apparatus
 - A list of apparatus and details of its arrangements, with diagrams.

7. Circuit theory
 - Where applicable. A brief account of the theory underlying the experiment.
8. Method
 - A full and clear account of how the experiment was carried out.
Write in the passive (A glass stopper was weighed).
9. Results (or Findings)
 - All your readings neatly tabulated with graphs neatly drawn.
Give the estimated limits of error (see above). If necessary use appendixes.
10. Conclusion (or Discussion)
 - The inferences drawn from the results obtained (these results show ...). Interpret results and explain their significance.
 - Could this experiment have been improved in some way? If so, explain why and how.
11. Appendixes
 - To support section 9, if necessary.

STUDENT PROJECT REPORTS

Many students are required to undertake projects and produce reports. For example, they are an important part of many GCSE examination schemes.

What points should I bear in mind?

Here are some points to bear in mind when carrying out a project:

- ◆ Be aware of who will choose the topic. It may be chosen by your teacher, or by you, or through discussion between the two of you.
- ◆ The topic chosen must be acceptable to your examining group. So talk to your teacher and refer to your syllabus. Then select a suitable topic, preferably one that can be investigated locally.

- ◆ Decide what sources of information you will require.
- ◆ Decide how you will gather this information.
- ◆ Gather the information.
- ◆ Analyse the information.
- ◆ Write the report.

If you want to know more about student project reports, refer to Chapters 9 and 10 of *How to Succeed at GCSE*, John Bowden (Cassell, 1989).

What would be a suitable format?

If your teacher tells you the required format, or if it is given in your syllabus, comply with it. If you have no such instruction or guidance, consider this simple format:

1. Contents page
 2. Introduction
 3. Main body
 4. Conclusions
 5. Recommendations (where appropriate)
 6. Appendixes
 7. Sources
-
- ```

graph LR
 A[1. Contents page
2. Introduction
3. Main body] --> B[Beginning]
 C[4. Conclusions
5. Recommendations
6. Appendixes
7. Sources] --> D[Middle]
 E[4. Conclusions
5. Recommendations
6. Appendixes
7. Sources] --> F[End]

```

See also **Technological Reports**.

## **SYSTEMS EVALUATION REPORTS**

A systems evaluation report serves one of these purposes:

- ◆ To discover which system out of several alternatives is most suitable for a particular application.

- ◆ To test an apparatus or system which it is intended to employ on a large scale, or with multiple applications, if the initial operation is deemed worthwhile.
- ◆ To enquire into the causes of failures in an existing operational system.

The last of these is considered under **Trouble-Shooting Reports**.

### **What points should I bear in mind?**

The purpose of the first two types of report is to inform those concerned with selection, implementation and utilisation about:

- ◆ the requirements of the application
- ◆ the criteria by which the systems should be judged
- ◆ the features of available systems
- ◆ data on their performance in the field
- ◆ and recommendations or conclusions about the best course of action.

These reports are important – mistakes are costly. You must be independent; do not rely on the word of manufacturers or suppliers. You probably will need to use supplementary text, footnotes, a glossary and illustrations (diagrams, flow charts and perhaps photographs).

### **What would be a suitable format?**

A suitable format for a report with the purpose of discovering which system out of several alternatives is most suitable for a particular application is as follows:

1. Contents page
2. Preface (personal background: why have you written the report?)

3. System Requirements
4. Systems Available
5. Criteria for Selection
6. The Final Choice
7. Appendixes (System Data Sheets).

A report on the initial performance of an apparatus or a system could follow this format:

1. Contents page
2. Preface (personal background: why have you written the report?)
3. Apparatus/System Requirements
4. Apparatus/System Performance (use appendixes, if necessary)
5. Conclusions
6. Recommendation
7. Appendixes (to support section 4, if necessary).

See also **Feasibility Reports** and **Trouble-Shooting Reports**.

## TECHNICAL REPORTS

Technical reports are often written at an early stage in a production process. They are usually generated internally, either by the technical publications department of an organisation or by staff involved in this production process. Here are some examples of technical reports:

- ◆ a technical proposal
- ◆ a feasibility study
- ◆ design and research reports
- ◆ pre-production reports
- ◆ evaluation documents
- ◆ ad hoc reports.

**What points should I bear in mind?**

These reports are often written by engineers who are not always familiar with the techniques of effective writing. The advice given throughout this book, therefore, will be of assistance. If you wish to read more about this wide yet specialised area of report writing, refer to *Spring into Technical Writing*, Barry J. Rosenberg (Addison Wesley, 2005).

**What would be a suitable format?**

Every organisation will have its own format requirements. This is a typical layout:

1. Contents page
2. Aims (why it was written, its terms of reference and its general purpose)
3. Summary (the salient facts and a concise summary of conclusions, if any)
4. Main body (main discussion of the subject matter)
5. Conclusions (if necessary)
6. Bibliography (if required)
7. Index (in larger reports only).

## TECHNOLOGICAL REPORTS

A technological report is concerned with the application of practical or mechanical sciences in order to achieve a desired aim.

**What points should I bear in mind?**

A good technological report should combine and *demonstrate* these qualities:

- ◆ planning
- ◆ communication

- ◆ ability to reason
- ◆ ability to evaluate
- ◆ a logical and realistic solution.

Show the 'thinking' that has gone into the report. Make sure it is well organised and well-presented. Present it logically to show a well-constructed development of the problem-solving process. Reach a solution which achieves your objective. Evaluate your work: are you satisfied with it? Is it economically viable?

### **What would be a suitable format?**

Here are three formats. As always, select the one that best suits your needs:

#### *Format A*

1. Contents page
2. Brief (what you were attempting to do)
3. Analysis (your analysis of the problem – include the research material you have gathered)
4. Thinking (your initial thinking and your evaluation of it)
5. Solution (explain how you developed your solution)
6. Evidence (include drawings, photographs and other evidence of your solution – the artefact)
7. Evaluation (an objective evaluation of your solution).

This format would be suitable for a Student Project Report about the production of an artefact (a physical thing created by one or more human beings, such as a working model or a piece of woodwork).

#### *Format B*

1. Contents page
2. Purpose
  - why was the work undertaken?

3. Methods Used
  - the apparatus and equipment used (with illustrations)
  - a step-by-step account of the procedure
  - observations taken (tabulated) – use appendixes, if necessary
  - calculations necessary to give meaning to the observations
4. Results
  - use tables and illustrations (and appendixes, if necessary)
5. Conclusions
  - a survey of the work undertaken:
    - compare actual results with theoretical results
    - compare actual results with others obtained elsewhere
    - give reasons for such discrepancies or variations
    - assess the relevance of the methods used
    - assess the efficiency of the equipment used
    - discuss any human errors and/or any relevant environmental factors
6. Recommendations
  - flowing naturally from your conclusions
7. Appendixes
  - to support sections 3 and/or 4, if necessary.

*Format C*

1. Contents page
2. Summary
  - concentrate on your findings
3. Object
  - a brief statement of your aim
3. Introduction
  - why was the work undertaken?
  - provide any relevant background information
  - discuss any limitations/conditions you faced (for example: cost, time, or environmental)

5. Apparatus
  - describe it (with illustrations)
  - why was it chosen?
6. Procedures
  - a step-by-step account of what was done
7. Observations
  - give details of components, specimens, equipment or machinery during and after the test
  - record the readings made during the investigation in tables and/or illustrations – use appendixes, if necessary
8. Calculations
  - based on your observations
  - based on theoretical considerations
  - analyse errors
  - summarise your results
9. Results
  - use a separate section or appendix, if necessary
10. Comments
  - discuss the degree of accuracy achieved
  - compare your results with those from other sources
  - comment on quality of the materials and workmanship of the item tested
  - what alternative method(s) of presenting your findings could you have used?
  - why did you present your findings as you have?
  - make your acknowledgements
11. Conclusions
  - flowing from your results and, where appropriate, your comments
12. Recommendations
  - flowing from your conclusions
13. Appendixes
  - to support sections 7 and/or 9, if necessary

14. Index

- in larger reports only.

Formats B and C are suitable for technological tests or investigations, perhaps assessing the suitability of two or more items for a defined purpose. Format C is particularly useful for a long report. See also **Comparative Testing Reports**.

## TROUBLE-SHOOTING REPORTS

These reports aim to locate the cause of some problem, and then suggest ways to remove or treat it. In the main they deal with people, organisations or hardware.

### **What points should I bear in mind?**

These reports highlight problems. When they are caused by people you must be especially careful to word the report thoughtfully. Be candid but be fair. Most of all, be accurate. When you are discussing problems caused by the structure of an organisation, you must expect to meet the objection: 'But we've always done it this way'. People are generally not keen on change. Reports on hardware are less complicated and often less contentious.

### **What would be a suitable format?**

Here are four possible structures. Choose the one that best suits your needs:

#### *Format A*

1. Contents page
2. Present situation (the salient points)
3. Options for Change (the pros and cons of each option)
4. Recommendations (well-argued, clear, unambiguous and concise)
5. References (if required).

*Format B*

1. Contents page
2. Introduction (purpose and scope)
3. Evidence (concise, balanced and unambiguous – use appendixes, if necessary)
4. Arguments for (present all the pros logically and objectively and respond positively to weaknesses in your case)
5. Arguments against (list them and refute them in turn)
6. Recommendation (be clear, unambiguous and precise)
7. Appendixes (to support section 3, if necessary).

*Format C*

1. Contents page
2. Introduction (your purpose)
3. Summary of Recommendations (clear, unambiguous and precise)
4. Present Position (the salient points)
5. Scope (what work was done, and possibly what was not)
6. Observations on Recommendations (the main body – repeat each recommendation and give the main pros and cons for each – say why the pros prevailed)
7. Conclusion (keep it concise)
8. Appendixes (if required).

*Format D*

1. Contents page
2. The Problem
  - nature and cause
  - extent
  - effects (perhaps on safety or production)
3. The Need for Change
  - reasons (perhaps labour problems or competition)
4. Proposed Solution
  - options available
  - details of proposed solution

- previous experience of this scheme (perhaps elsewhere)
  - advantages
  - disadvantages (and how they can be overcome)
  - effects (perhaps improved efficiency or sales prospects)
5. Time Factors
    - when can it be implemented?
  6. Costs
    - for *each* option:
    - implementation costs
    - running costs
    - estimated savings, if applicable
  7. Conclusion
    - for the *chosen* option:
    - overall effects
    - overall benefits
  8. Recommendations
    - item by item, clear and unambiguous
  9. Appendixes
    - if required.

See also **Feasibility Reports** and **Systems Evaluation Report**.