

Management services —

Part 2: Guide to method study

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- British Gas plc
- Civil Service College
- Ergonomics Society
- GAMBICA (BEAMA Ltd.)
- HM Treasury
- Institute of Administrative Management
- Institute of Management Services
- Institute of Quality Assurance
- Loughborough University of Technology
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- Ministry of Defence
- Trades Union Congress

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Foreword

This Part of BS 3375 has been prepared under the direction of the Quality, Management and Statistics Standards Policy Committee. It supersedes BS 3375-2:1986 which is withdrawn.

BS 3375 comprises a series of standards published in response to a demand for information and guidance on how the various terms contained in BS 3138 *Glossary of terms used in management services*, interrelate. This revision of BS 3375 results from the publication of the fourth edition of BS 3138 in 1992.

In recent years there has been considerable development of the techniques and broadening of the areas of application of work study and organization and methods. The revision of this standard reflects the fact that these methodologies are now used across the entire spectrum of commercial and non-commercial activity and are applied to all types of work and work situation. This sphere of activity and practice of techniques has become known as “management services” and consequently it has also been decided to retitle BS 3375 as *Management services*.

This series of standards comprises the following Parts:

- *Part 1: Guide to organization study;*
- *Part 2: Guide to method study;*
- *Part 3: Guide to work measurement;*
- *Part 4: Guide to work performance control.*

When using this Part of BS 3375 it is also important to refer to the terms listed in BS 3138:1992.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 18, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

0 Introduction

0.1 Purpose of the guide

The objective of this Part of this British Standard is to give guidance on the way in which method study should be carried out in any appropriate circumstance, as a general problem-solving methodology and how method study may make use of the wide range of techniques that are available. This standard should be used in conjunction with BS 3138:1992.

0.2 Objectives of method study

The principal objective of method study is to assist management in solving its problems so as to make the most efficient and safe use of available resources, including land, buildings, people, equipment, materials, energy, information and its own organization.

0.3 Application of method study

Method study is the systematic recording and critical examination of ways of doing things in order to make improvements. As such, its application is virtually unlimited. Although it was originally devised for analysing and improving repetitive manual work, it can be used at all levels across the complete spectrum of organizations in all types of activity. Problems range from “hard” to “soft”. Hard problems refer to relatively visible or tangible activities, in that the activity can be seen, traced and recorded quite easily. Soft problems are those where it is much more difficult to see what is going on and where people and their interactions are substantial ingredients of the situation. Since it encompasses both formal analytical techniques and the soft systems methodology, method study is applicable across the spectrum. Method study is used as a specialist procedure by practitioners in management services, but is open to use by anyone as a problem solving methodology.

0.4 Benefits accruing from method study

The benefits that can be gained from method study are as follows:

- a) reduction in costs;
- b) increased throughput/output;
- c) improvements in quality and associated reduction in scrap/wastage/error rates;
- d) reduction in operator fatigue;
- e) increased job satisfaction;
- f) improved working environment;
- g) more effective decision-making;
- h) more effective and disciplined approach to the solution of problems of any kind;

- i) for the practitioner, enhanced personal awareness and understanding of own thought processes.

1 Scope

This Part of BS 3375 gives guidance on procedures and techniques of method study. It recommends the overall approach that should be adopted when attempting to improve structures, methods, systems and procedures. It is a disciplined approach that can be used when attempting to obtain an understanding and solution of problems that are complex and difficult to unravel by less formal approaches.

2 Normative references

This Part of BS 3375 incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this Part of BS 3375 only when incorporated in it by updating or revision.

3 Definitions

For the purposes of this Part of BS 3375, the definitions given in BS 3138:1992 apply.

4 Approach

Method study is often seen as a step-by-step process. This basic procedure is, however, simply a convenient way of expressing the traditional method study approach to problems and situations that tends to be rather analytical by nature. Method study should not be a mechanistic procedure that is followed from beginning to end; it is much more a circular process requiring constant re-evaluation of basic assumptions and constant re-examination of each stage in thinking and progress in the problem solving. Philosophical development of the basic procedure over the years has led to a clearer recognition of the inherent circularity of problem solving. This is embodied in the method study sequence that is discussed in clause 6. This approach to problem solving should be of a more creative nature than the basic procedure. The difference is more of degree than kind and the practical handling of a problem will reflect the nature of the problem itself.

These two interpretations of method study procedure are not incompatible. They represent two stages and levels of evolution of understanding of the general problem-solving process used by human beings in all contexts.

5 The SREDIM procedure

5.1 General

The basic procedure of method study, which is commonly referred to by the acronym SREDIM, includes the following distinct phases:

SELECT
RECORD
EXAMINE
DEVELOP
INSTALL
MAINTAIN

Application of this basic procedure should lead to a systematic approach being followed by those undertaking a method study (see Figure 1).

5.2 Select

5.2.1 General

The “select” stage of the basic procedure consists of the identification of problem or opportunity areas, the definition of the problem or opportunity and the establishment of terms of reference for the method study project.

5.2.2 Identification of problems or opportunities

There are three basic ways in which areas or situations should be selected as targets for method study.

- a) Reporting by, for example, management, unions, operators or customers, normally because of dissatisfaction with an existing situation. For example low performance levels, inconsistent quality, late deliveries or high accident rates.
- b) A systematic review of existing practices and procedures. This may involve the analysis of historical records or other research procedures.
- c) Identification by management as part of, for example, a change in policy, a new initiative, a physical relocation or changes in available technology.

5.2.3 Establishing priorities

The factors that may influence the setting of priorities for method study investigations are as follows.

- a) *Legislative/contractual*. For example a problem reported under the Health and Safety at Work etc. Act 1974 or under employer-employee agreements.
- b) *Levels of dissatisfaction*. If a situation is causing high levels of dissatisfaction which may result in industrial relations breakdown or customer losses, that itself is justification for the committing of resources to its investigation.

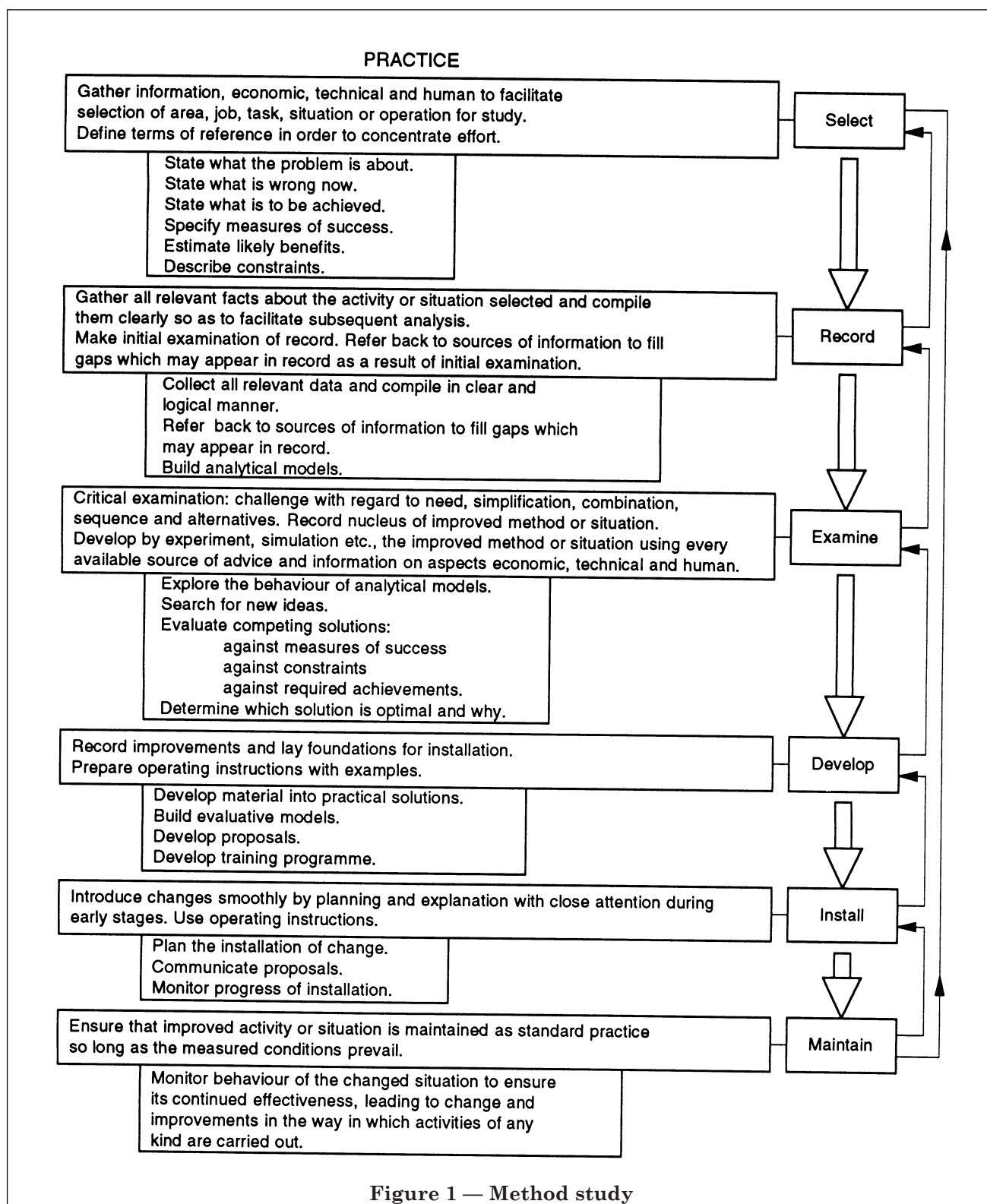
c) *Potential costs and benefits*. It may be necessary to undertake a preliminary method study to provide estimates of the likely costs in carrying out the full method study and the potential benefits arising from the method study. Where these estimated costs and benefits can readily be expressed in comparable units (e.g. money), this greatly assists the establishment of priorities. Where this is not possible (e.g. to quantify the effects of improved job satisfaction), management needs to be aware of the qualitative benefits.

d) *Urgency*. Although method study is often identified with major, long-term projects involving repetitive operations, it is also often used for urgent investigations to solve immediate, one-off problems.

5.2.4 Terms of reference

Before a method study project is started, the terms of reference for the project should be established. These terms of reference should enable the objectives, scale and scope of the method study to be determined, within the specified constraints. Such constraints will commonly be related to organizational, financial and time limitations. For example the method study might be limited to certain parts or levels of the organization. The person undertaking the method study should accept these terms of reference or challenge them on the basis of reason or factual evidence. Formulation of the terms of reference should lead to a plan of action aimed at meeting the objectives within the constraints. This plan will not necessarily be fully detailed, but thought should be given to the broad strategy, the techniques to be employed, the personnel involved and the scheduling of activities. Thought should also be given at this stage to industrial relations and relevant implications of the method study and its results.

For small projects, the process of establishing terms of reference should take no more than a short meeting with those involved. For large, complex projects it may be necessary to undertake pilot or feasibility studies to establish basic data and help formulate the basic strategic approach. The terms of reference, however established, serve to act as a stabilizing influence on the method study proper and should be amended later only with very good cause.



5.3 Record

5.3.1 General

Data should be continually collected and updated throughout all stages of a method study investigation. However, in the context of the basic procedure, “record” has a special meaning which is to record how things are done in the present situation. The recording is used as the basis for subsequent examination and also allows comparison with proposed methods and procedures to demonstrate improvements.

The number of techniques available to assist in the recording process is large and continually growing. The necessary aim is to record data in a form most suitable for subsequent analysis and development of improvements. The various techniques are convenient ways of representing the recorded data. The important part of the exercise is the derivation and validation of the facts, normally via observation and interview.

5.3.2 Level of detail

The aim of recording is to obtain a complete record of the existing methods, procedures and situations, but care should be taken to establish the level of detail required in the recording. Insufficient detail may result in vital factors being overlooked or wrong assumptions being made. Too much detail may complicate or confuse at the examination stage.

In practice, recording is often an iterative process; a broad recording is made and examination is started, but additional recording may be required to focus on certain areas and provide greater detail.

5.3.3 Choice of technique

Many of the available recording techniques can be classified according to the level of activity they are designed to record (e.g. operator motion pattern, workplace layout or procedure flow), or the cycle time of the process they are recording. Choice of technique should thus be dependent on the nature of the problem or opportunity, the level of activity concerned in the problem or opportunity area and on the cycle time of the process under study.

5.3.4 The use of computers

Increasing use can be made of computer-based techniques for problem solving. Many model-building and manipulating techniques exist that lend themselves to computer assistance (e.g. decision support techniques, spreadsheet packages and operational research techniques). Recording may therefore consist of arranging data capture directly into the computer or of recording data in a form that can conveniently be converted into machine-readable form.

5.3.5 Reference period data

It is often necessary to collect data over a representative period to provide a historical record of the existing situation. Such data may consist of output and performance levels, reject or error rates and costs and are used to assist in the identification of problem or opportunity areas (see 5.2.2). These data may also be used for comparison purposes with similar data collected following the introduction of a revised method or procedure.

5.4 Examine

The existing method or procedure, via the recorded data obtained in the “record” stage, should be subjected to systematic scrutiny. Formalized versions of this scrutiny are known as critical examination and systems analysis. The first purpose of this phase of the investigation is to identify the true reasons underlying each part of the existing situation. Following this, an attempt is made to evaluate each of these parts to identify where improvements are necessary and possible. A clear idea of the objectives and user requirements of the method or procedure is essential if this evaluation is to be effective. The process of examination thus requires extensive consultation with those in a position to offer useful information, background data or constructive criticism.

5.5 Develop

5.5.1 General

The “examine” and “develop” phases of the basic procedure merge into one another. Similarly, the tasks of systems analysis and system design are part of the same continuous process. Arising from the examination, the aim of the “develop/design” phase is to generate ideas about possible improvements, to subject these ideas to systematic evaluation and to develop a preferred solution within the prevailing constraints. The critical examination process attempts this by using a questioning technique designed to generate alternatives systematically.