



PD-6495: 1983

UDC 006.065.003.1:001.24 IFAN

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IFAN-Guide 1

Method for determining the advantages of (company) standardization projects

INTERNATIONALE FÖDERATION DER AUSSCHÜSSE NORMENPRAXIS
 INTERNATIONAL FEDERATION FOR THE APPLICATION OF STANDARDS
 FEDERATION INTERNATIONALE DES ASSOCIATIONS POUR LA PRATIQUE DES NORMES



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A previous edition of PD 6495 was published in 1980 as a direct translation of the French and German language versions of IFAN Guide 1. Subsequent discussion with IFAN WGa has shown that this literal translation did not express the concepts as well as the more free translation used in this new edition. This edition accordingly supersedes PD 6495 : 1980 which is withdrawn. The guide is also available in French and German versions published by AGN Austria* and ACANOR† France respectively.

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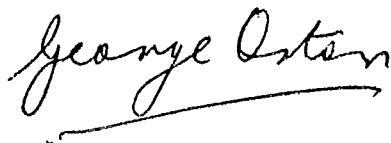
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†IFAN—Guide 1 Evaluation de la rentabilité de projets de normalisation. Association des Cadres de normalisation (ACANOR), Tour Europe, Cédex 7, F-92080 Paris—La Défense.

Foreword

Ever since the start of the modern era of standardization there has been a desire on the part of standards engineers, and of others, for a method by which the effects of standardization at the company level could be quantitatively assessed. This guide, which is the result of study by Working Group 'a' of the International Federation for the Application of Standards (IFAN), meets such a need.

Tribute must be paid to those responsible for the preparation of the guide. This was a joint effort by the members of Working Group 'a' of IFAN, drawn from the member bodies of Austria, France, Germany, Holland, Sweden and the United Kingdom, who have produced, for standards engineers, a guide which is an essential tool in their chosen discipline. May it serve them well.



G.A. ORTON
President of IFAN, 1978 to 1981

Background

The International Federation for the Application of Standards (IFAN) is an association representative of the national organizations concerned with the application of standards and was founded in 1974. The present members are:

Comité Belge de la Normalisation d'Enterprise, Belgium;
Standardiseringsteknisk Forening (STAFÖ), Denmark;
Ausschuss Normenpraxis (ANP) im DIN e.V., Germany;
Association des Cadres de Normalisation (ACANOR), France;
British Standards Society (BSS), United Kingdom;
Institute of Standards Engineers, India;
Savez Drustava za Unapredjenje Standardizacije Jugoslavije (SADUS), Yugoslavia;
Comité voor Bedrijfsnormalisatie (COBENO), Netherlands;
Standardiseringsforeningen, Norway;
Arbeitsgemeinschaft Normenpraxis im ON (AGN), Austria;
Standardiseringstekniska Föreningen (STANTEK), Sweden;
Suomen Laatuhydistys (SLY), Finland;
Normenausschuss Normenpraxis (NOP), Switzerland;
Standards Engineering Society (SES), USA.

IFAN was established to provide an international forum for the exchange of ideas on and experiences of standardization and it has close links with the international standardizing

bodies. It operates through its Members' Assembly and practical work on topics of interest to standards practitioners is carried out through working groups established to study particular subjects. The results of the studies and other subjects of interest to those concerned with standards are presented to an international conference on standardization organized by IFAN and held every three years.

The Federation is managed by a board consisting of the President, two Vice-Presidents and the Secretary. Further information about IFAN can be obtained from the Secretary*.

IFAN Working Group 'a' studied the problem of the assessment of the effects of standardization and the results of their efforts were presented at the Second International Conference Normenpraxis, organized by IFAN and held in Berlin in May 1977. The IFAN manual 'The method of assessing the economic advantages of standardization for a company', under the authorship of Mr M Imberty, ACANOR, was presented during the conference and published as part of the conference proceedings. Working Group 'a' continued to study the problem, and efforts to prepare case studies for a presentation on the subject to the third IFAN conference in London in 1980 led to the realization of the need for a guide to the use of the IFAN method that could be readily used by standards engineers in the companies; this guide is the result of their further studies. The guide is being published in English, French and German, the three official languages of IFAN, and is available from the corresponding member bodies.

The method detailed in this guide is applicable, for the assessment of the effects of standardization, to most of the cases arising within the standardization department of a company. However, it is recognized that there may be occasions when the method is not viable for one reason or another, e.g. the financial data required may not be available, and in such instances it may be necessary to make a qualitative rather than a quantitative assessment. Should any difficulty be experienced in the use of the guide, the reader is invited to communicate with IFAN or with one of its member associations.

The International Organization for Standardization (ISO) has been making a study of the effects of standardization at the international and national level. This study, carried out by the Swedish member body of ISO (Standardiseringskommissionen i Sverige), has led to the preparation of an ISO booklet 'The benefits of standardization'. A resumé of the proposed contents of the ISO booklet is given in appendix H and the booklet is recommended to all those interested in the subject of the assessment of the effects of standardization. IFAN-Guide 1 and the ISO booklet are complementary to each other, covering as they do different aspects of the same subject.

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†In course of preparation.

IFAN-Guide 1

Method for determining the advantages of (company) standardization projects

1. Introduction

1.1 General

1.1.1 The purpose of this guide is to describe a method for deciding whether a standardization project is worthwhile. This is done by assessing its effects on all aspects of the company's operations and where practical by expressing them in monetary terms. A standardization project is here defined as a project which is to be carried out in a planned manner involving the use of existing standards and/or the creation of new standards. The method requires a clear definition of what is to be done, so that it can be shown which parts of the company will be affected and how. Such an analysis can provide a preliminary estimate of profit and loss and thus enable an initial assessment of the viability of the project to be made.

1.1.2 In many cases this analysis will indicate whether or not the project is worthwhile, particularly where there are other reasons apart from profit and loss such as health and safety or product liability aspects involved, or where there is no practical alternative. Further, the method provides a check list so that all the ways in which the company may be affected can at least be identified even if they cannot be quantified.

1.1.3 In the final stage the effects can be expressed in monetary terms for those projects where sufficient information is available, and where such a detailed assessment is considered necessary before proceeding with the project. Alternatively this final stage can be used during and after the project to provide a comprehensive analysis of the profit and loss for use in the future either in support of further proposed projects or in deciding how to carry them out.

1.2 Objectives and uses of the method

1.2.1 The method consists of a set of procedures for assessing and calculating the effects of the project together with appropriate formulae for expressing the results, which can be applied step by step in a logical fashion.

1.2.2 As has been said the method can be used before, during, or after the project has been put in hand for:

- (a) forecasting the likely outcome of the project;
- (b) establishing the minimum return from the project;
- (c) justifying the expenditure particularly for major projects;
- (d) setting priorities for projects when resources are limited;
- (e) recording the results for future use.

1.2.3 The method is based on a comparison of the situation in the company before and after implementation of the

project. By putting figures to the associated effects and by taking account of the expenses to be incurred, an overall picture may be obtained in the form of numerical values or ratios so that a judgement can be made on the worth of the project.

1.2.4 This procedure is similar to those which are used for calculating the advantages and disadvantages of an investment, and does not depend on the type of standardization project. The data to be used, particularly that to be converted into monetary terms, should be compiled within the company, if comparisons with other projects within the company are to be valid.

1.2.5 The work involved in collecting the data and in making the calculations will depend on the degree of accuracy required in the result, and should bear reasonable relation to the importance of the project.

1.2.6 By 'duration of the project' in appendix B is meant the time during which the project is considered to be effective and can cover the periods of preparation, initial implementation and subsequent use. It is the time during which the standardization documents produced for the project can be expected to remain in operation, i.e. the period over which the conditions prevailing at the time of issue are considered to be stable or to change at a known rate. Each company will need to determine for itself what is a suitable duration on a case-to-case basis.

2. General description of the method

2.1 The IFAN method of analysis and calculation is subdivided into the following four phases:

Phase 1: Definition of the subject to be covered by the project, the objectives, and the time during which the project will be in operation.

Phase 2: Qualitative assessment of the effects of the project on the subject itself and on the functioning of the company (i.e. on the operations, resources and administration of the company).

Phase 3: Quantitative determination and evaluation of the effects on the functioning of the company, and hence assessment of the annual savings and expenses involved in carrying out the project.

Phase 4: Expressing the results in the form of costs and savings, in the case of the latter taking into account the duration of the project.

2.2 The method can be simplified as follows:

- (a) for those projects which recur in many companies and hence can be classified as particular types of project; (In these cases the effects on the company are listed in appendix C so that phase 2 can be omitted);

(b) for those projects where the quantitative determination and evaluation of the effects on the functioning of the company are not possible or would require an excessive amount of work, the method of calculation may be simplified by working directly from column 1 of appendix B when filling in columns 3.1 to 3.10;

(c) for those projects involving reduction in the number of different types of stocked items, appendix E covers the factors to be taken into account when estimating the savings which could be made.

3. Implementation of the method

3.1 General. The results obtained from the four phases are entered in the appropriate spaces in the calculations table of appendix B. A flow chart of the operation of the method is given in appendix A and an explanation of its application is given in appendix G.

3.2 Phase 1: definition of the subject to be covered by the project, the objectives and the time during which the project will be in operation. Phase 1 is carried out in three stages as follows.

(a) Under 'Subject' (appendix B) enter a precise description, including name, reference number and any other supporting information.

(b) Under 'Objectives' cover the changes involved in the form of a summary of the situation before and after the project.

(c) Under 'Duration of the project' enter the time the project is expected to be in operation (see 1.2.6).

NOTE. In the case of (a) and (b) it may be necessary to continue on a separate sheet.

3.3 Phase 2: qualitative assessment of the effects of the project on the subject itself and on the functioning of the company. First a check should be made to see whether the project matches with one of the typical standardization projects given in appendix C. If it does, the applicable effects in appendix B can be immediately identified. Otherwise phase 2 will have to be applied in three stages as follows.

(a) Identification by means of a tick of those features in column 1 of appendix B affected by the project.

An explanation of the effects on the company of these features is given in appendix D.

(b) Taking those features in column 1 identified in (a), determine the effects in column 2 on the operations, resources and organization of the company and tick off those effects A to V which are applicable.

NOTE. The blank rows W to Z are available for entering further effects that are not covered by A to V.

(c) Taking those effects in column 2 identified in (b) tick off those parts of the company detailed in columns 3.1 to 3.10 which will be affected. This has to be done with care if full value is to be obtained from the final result, as it identifies those areas for which data will be required to produce financial figures for savings and expenditure.

NOTE. Columns 3.11 and 3.12 are available for identifying further parts of the company not covered by 3.1 to 3.10.

3.4 Phase 3: quantitative determination and evaluation of the effects on the company and hence assessment of the annual savings and expenses involved in carrying out the project

3.4.1 Quantitative determination of the effects identified in phase 2. A quantitative measurement of each effect on

the production processes, resources to be employed and administration of the company needs to be made, expressed in appropriate units, e.g. number, weight or hours; where this is not possible an approximate estimation will have to be made on the features detailed in column 1 of appendix B. An example of a simplified approach to estimation is given in appendix E.

An approximate calculation may suffice as a preliminary investigation before beginning the project.

The data required will generally be obtained from the appropriate parts of the company either from existing information or produced specially for the project.

3.4.2 Evaluation of the effects in monetary terms. The quantitative results obtained in 3.4.1 now need to be converted into monetary terms. The data for this evaluation may be obtained either from existing company records or developed specially for the project.

It is useful to file these statistics and keep them updated so that they can be re-used for other projects.

The result of the evaluation is a sum of money, e.g. for labour costs.

Labour costs = hourly rate x number of hours.

The following points apply both to the quantitative determination of 3.4.1 and the evaluation of 3.4.2.

(a) If an exact calculation is impossible or too much effort is required, the changes and effects can be expressed as an approximate percentage of the initial value.

(b) The effects of some changes are easy to quantify and to evaluate but do not result in a significant reduction in costs. However, they should still be included in the calculations for the following reasons:

(1) later changes to the project or perhaps a further project may make these costs significant;

(2) the exercise may avoid an increase in costs being made;

(3) the benefits of the change may show up in other ways, e.g. more effective use of the work force may result in better product quality;

(4) in any case the qualitative determination gives a base from which to measure the value of the change introduced.

The collection of data for the calculations is usually the most difficult part of the task. In some cases a rough calculation or even an estimate will have to suffice. This applies particularly when the amounts in question will not appreciably affect the result, e.g. less than 10 % of the largest savings. However, it is important to remember that the accuracy of the results achieved from the overall calculations will depend on the completeness and accuracy of the individual amounts.

For a simplified process see 2.2 (c).

3.4.3 Entry and summation of the amounts in the calculations table. Enter the individual amounts calculated into those spaces in the table which were ticked off in phase 2, and add the amounts to obtain the overall cost and annual savings. When entering the individual amounts, symbols are to be used as follows so that the sums in each column can be added algebraically:

(a) initial costs of carrying out the project:

(b) initial savings when carrying out the project: