IDA QA Framework Contract n° 500872

IDA Project Evaluation Guide

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# TABLE OF CONTENTS

1. INTRODUCTION .................................................................................................................. 1  
   1.1 Overview ...................................................................................................................... 1  
   1.2 Applying the method ................................................................................................. 1  
   1.3 Acronyms and abbreviations .................................................................................... 1  
   1.4 Reference documents .............................................................................................. 2  

2. GENERAL ............................................................................................................................ 3  
   2.1 What are the objectives of the IDA programme? ...................................................... 3  
   2.2 How is the IDA programme implemented? ................................................................ 4  
   2.3 What must an IDA Project Evaluation do? .............................................................. 5  

3. IDA EVALUATION METHOD SPECIFICATION .......................................................... 6  
   3.1 Pre-requisites .......................................................................................................... 6  
   3.2 Process model ........................................................................................................... 6  
   3.3 Readership of an IDA Project Evaluation Report .................................................... 12  

4. IDA PROJECT EVALUATION INFORMATION MODEL ............................................. 14  
   4.1 Identification information ....................................................................................... 14  
   4.2 Progress information .............................................................................................. 15  
   4.3 Costs and benefits information model ................................................................. 16  
   4.4 Lessons learned ...................................................................................................... 18  

5. MANAGEMENT OF AN IDA PROJECT EVALUATION ................................................ 20  
   5.1 Organisation ............................................................................................................ 20  
   5.2 Qualifications of the evaluators ............................................................................. 20  
   5.3 Control ...................................................................................................................... 20  
   5.4 Planning assumptions ............................................................................................. 21  
   5.5 Schedule ................................................................................................................... 21  
   5.6 Costs ........................................................................................................................ 21  

6. ANNEX A GLOSSARY ...................................................................................................... 22  

7. ANNEX B IDA EVALUATION REPORT TEMPLATE ................................................... 24  

8. ANNEX C ANALYSIS OF RETURN ON INVESTMENT ............................................... 26  

DOCUMENT CONTROL ........................................................................................................ 27  
DOCUMENT SIGNOFF ......................................................................................................... 27  
DOCUMENT CHANGE RECORD ......................................................................................... 27
1. INTRODUCTION

1.1 Overview

/1 This document describes a method designed for the evaluation of projects of the Interchange of Data between Administrations (IDA) programme. In the interests of economy, the term “project” is used generically in this document to refer to any project, action or measure; i.e. it encompasses both “projects of common interest” (PCIs) [ref.6] and “horizontal actions and measures” (HAMs) [ref.7].

/2 Section 2 provides an overview of the IDA programme and defines the purpose and scope of a project evaluation. Section 3 specifies the IDA evaluation process. Section 4 defines the IDA project evaluation information model. Section 5 contains guidelines on managing an IDA project evaluation. Annex A contains a Glossary. Annex B contains a report template.

1.2 Applying the method

/1 The IDA Project Evaluation Method is defined in terms of mandatory, recommended and guideline practices, identified by the use of the words “shall”, “should” and “may”.

/2 Before each application of the IDA Project Evaluation Method, the evaluators shall review the method and may add, modify or delete practices to tailor it to the application. A written justification of the changes shall be provided.

/3 Lessons learned in applying the IDA Project Evaluation Method should be passed on to the method owners in an annex to the evaluation report.

1.3 Acronyms and abbreviations

DG Directorate General
EC European Commission
EU European Union
IDA Interchange of Data between Administrations
MS Member State
MSA Member State Administration
TAC Telematics for Administrations Committee

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1 This document has been produced by Anite Systems and White Waghorn according to Specific Agreement 2 of Framework Contract Number 500872 between Anite Systems and the European Commission. This agreement required the definition of a generic method for cost benefit evaluation. This document meets that need by including cost benefit evaluation within project evaluation.
1.4 Reference documents


5. Communication from the European Commission concerning the evaluation of the IDA programme and a second phase of the IDA programme, 12-Dec-97, COM(97) 661 Final, 97/0340 (COD), P7/0341 (SYN)


7. DECISION No 1720/1999/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 July 1999 adopting a series of actions and measures in order to ensure interoperability of and access to trans-European networks for the electronic interchange of data between administrations (IDA)

8. IDA2 Evaluation Report, Anite-W2/IDAQA/07FIN, Issue 1 (16 Jun 00)
2. GENERAL

2.1 What are the objectives of the IDA programme?

/1 The objectives of the projects of common interest within the IDA programme are to establish [ref. 6]:

- operational, interoperable, trans-European telematic networks between Member State administrations, whether national or regional, as well as between such administrations and the Community institutions and bodies as appropriate, enabling the efficient, effective and secure interchange of information in order to support the establishment of economic and monetary union and in order for the Member States and the Community to implement, within their respective areas of competence, the Community policies and activities referred to in Articles 3 and 4 of the Treaty, taking into account work already under way in existing Community or Member State programmes.

- integrated telematic networks for the facilitation of communication between the Community institutions and in support of the Community decision-making process.

/2 The objectives of the horizontal actions and measures, in relation to projects of common interest for IDA networks and similar projects establishing other sectoral networks [Ref.6, Article 11], are [ref. 7]:

- the achievement of a high degree of interoperability, within and across different administrative sectors and, where appropriate, with the private sector, between the telematic networks established in the Member States and between the Community and the Member States in order to support the establishment of economic and monetary union and to implement the Community policies and activities referred to in Articles 3 and 4 of the Treaty taking into account work already under way in the existing Community or Member State programmes;

- the convergence of such networks towards a common telematic interface between the Community and the Member States;

- the achievement of substantial benefits for Member State administrations and the Community by streamlining operations, reducing maintenance, speeding up implementation of new networks and enhancements, achieving an overall secure and reliable interchange of data, as well as the achievement of greater cost-efficiency, responsiveness, flexibility and adaptability to technological change and market evolution in the establishment and operation of such networks;

- the extension of the benefits of such networks, as mentioned in the previous paragraph, to Community industry and citizens of the European Union;

- the promotion of the spread of best practice and the encouragement of the development of innovative telematic solutions in administrations.
2.2 How is the IDA programme implemented?

/1 The implementation of the objectives of the IDA programme is summarised in Figure 1. Once the Council and European Parliament have defined the objectives of the IDA programme, the Commission plans the programme in consultation with Member States by defining a set of projects to achieve the objectives.

/2 The IDA Projects may be “vertical” or “horizontal”. A vertical project delivers facilities and services to a specific group of end users. Vertical projects are sometimes called “sectoral projects” as they are oriented towards a specific application sector. A horizontal project delivers services or products that may be applied to any vertical project. “Generic services” and “infrastructure projects” are examples of horizontal projects.

/3 Since its inception the IDA1 programme\(^2\) evolved from being a source of funding for a loose collection of vertical projects to a rather more coordinated set of vertical and horizontal projects, with increasing emphasis being given to management and co-ordination of the programme. This process culminated on 3 August 1999 in the publication in the Official Journal of the IDA2 Decisions [ref.6 and ref.7].

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\(^2\) On May 28th 1998 the Court of Justice annulled Council Decision 95/468/EC that established phase 1 of the IDA programme. However it declared that the effects of the implementing measures already taken by the Commission on the basis of that decision must be maintained. Thus measures adopted until 31st December 1997 remained valid.
As shown in Figure 1, each project is planned, and the objectives, measurable targets, and activities of each project are defined. Projects are then executed. Progress is periodically reported (e.g. every three months) as described in reference 4. The progress, costs and benefits of each project are evaluated over a longer period (e.g. every two years, or at the end, whichever comes first) as described in this document.

The last step of the control loop shown in Figure 1 is programme evaluation [ref. 2], which reports, for the whole programme, progress, costs and benefits. Programme evaluation takes place every two years or after the completion of a phase of the programme, whichever comes first.

### 2.3 What must an IDA Project Evaluation do?

An IDA Project Evaluation shall evaluate the financial costs and benefits, quality costs and benefits, and whether the objectives of a project have been or will be achieved.

An IDA Project Evaluation shall evaluate the effectiveness of administration and management of the project.

An IDA Project Evaluation shall identify the lessons learned.

An IDA Project Evaluation shall make recommendations as to how to improve the likelihood of success (i.e. reduce risk) of the project or other projects. The recommendations may be in the form of lessons learned.

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3 For a sectoral project, evaluation at the end is the “post-implementation review”.

4 An IDA Project Evaluation is therefore both “prospective” and “retrospective”
3. IDA EVALUATION METHOD SPECIFICATION

3.1 Pre-requisites

/1 The success of an IDA Project Evaluation is dependent upon the documentation of the following “pre-requisites”:

a. the objectives, measurable targets, and activities for the project
b. data on the progress, costs and benefits of the project.

/2 Items (b) should ideally be systematically accumulated by the Commission during the course of the project and made available to the evaluators at the start of the evaluation. The absence of data is likely to prevent a positive evaluation of the project, or increase the cost of the evaluation, or both.

3.2 Process model

/1 The IDA Project Evaluation Process is summarised in Figures 2 and 3 below. Circles represent processes, arrows represent information flows, parallel lines represent information stores, and boxes represent sources and destinations of information. Each subsection below corresponds to a process shown in Figure 3.

Figure 2: IDA Project Evaluation Inputs and Outputs
3.2.1 Collect information

/1 The IDA Project Evaluation process is initiated by the Commission providing to the evaluation team:
- terms of reference
- the contact details of the Commission officials with responsibility\(^5\) for the project

/2 Other information to be provided, as available, includes:
- project plans (e.g. project implementation plans)
- project progress reports (i.e. produced by the project manager)
- previous project evaluation reports\(^6\)
- a project management report from the Commission
- other useful background information, such as contracts, suppliers’ proposals; information on cost savings on services and products provided by horizontal projects (e.g. TESTA); any relevant outputs from self-assessment activities, etc.

\(^5\) at contract management and technical management level

\(^6\) It is intended that sectoral projects will normally be evaluated at the end of the Implementation Phase. Large and/or long-lived projects may in addition be subject to interim evaluations.
A project management report from the Commission should:

- provide information available to the Commission on the progress, costs and benefits of the project (e.g. contract value, year end summary of expenditure of the project)
- provide any relevant information on the progress, cost and benefits of projects that is not provided in the progress reports and project evaluation reports
- describe any corrective and preventive actions taken
- list the project participants, and indicate those most actively and constructively involved in the execution of the project; these people will be candidates for interviews later in the evaluation process
- brief the evaluation team on the project constraints, particularly legal or political factors affecting the progress of the project.

The evaluation team reviews these inputs and loads relevant data into the IDA Project Evaluation Infobase, which is structured according to IDA Project Evaluation Information Model described in Section 4.

### 3.2.2 Define questionnaire

Project questionnaires are developed that are designed to collect the information that is lacking from the projects in the areas of:

- progress
- costs and benefits.

The project questionnaire should be prepared according to the process shown in Figure 4 below.

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7 A face-to-face briefing may be necessary.
Tailor IDA Project Evaluation Information Model (1). The evaluators first tailor the IDA Project Evaluation Information Model for the project by adding, modifying or deleting categories of information based upon the Terms of Reference of the evaluation and Project Constraints (e.g. a project at the feasibility stage may have no quality information).

Define Top-Level Metrics (2). Next the evaluators define the “top-level” metrics related to the project objectives. For example the objective of one IDA project was: “To simplify and accelerate the administrative procedures in order to improve the acquisition of rights, the award and payment of social security benefits”. A corresponding top-level metric to this is the “time taken to settle a pension claim” (a reduction in this value indicates acceleration of the procedures).

Analyse Metrics (3). Top-level metrics should then be analysed to:

- identify lower-level metrics that are easier to measure
- understand the factors affecting the value of the top-level metric.

Analysis may be done by decomposition of the process related to the top-level metric. For example the “time taken to settle a claim” can be decomposed into other metrics by analysing the pension settlement process shown in Figure 5.
Figure 5 Pension Claim Settlement process

In Figure 5, the pensioner submits a claim to the Investigating Institute in their country of residence. The Investigating Institute identifies the relevant Member States and sends E202, E205 and E207 forms to them. The relevant Member State Competent Institutions then assemble their parts of the employment history and return the data on E205 forms to the Investigating Institute. The Investigating Institute then calculates the total entitlement and sends the results on E210, E211 and E212 forms to the Member States, who then start payment, or adjust payments, as appropriate.

The “time taken to settle a claim” is the sum of the following metrics:

- Time taken by Investigating Institute to identify relevant Member States
- Time taken by relevant Member State/CI to assemble the employment history
- Time taken by Investigating Institute to assemble total employment history
- Time taken by relevant Member State to calculate their contribution.

It may sometimes be difficult to identify quantifiable benefits that can easily be measured. In these cases benefit-related indicators should be used. (These can also be described as success factors.)

Formulate Questions (4). Lastly the questions are formulated in terms of the financial, quality and project objectives metrics. The project questionnaire should be reviewed and approved by the Commission.

The project questionnaire should be designed to ensure that:

- information already provided is not requested again
irrelevant questions are not asked.

A data reduction process should be defined that calculates the metrics in the IDA Project Evaluation Model from the raw questionnaire data. A trial reduction should be attempted using dummy data to verify that all relevant data is requested. For example the pension claim settlement time (see 3.2.2.3) in a fictitious Member State should be calculated.

The project questionnaire may be piloted with selected participants. Any changes suggested by the pilot shall be approved by the Commission.

The evaluation team sends the questionnaire to the list of project participants agreed with the Commission, clearly indicating the deadline for responses. To achieve an acceptable response rate it is generally necessary to follow up the distribution of the questionnaires with reminders by e-mail or telephone or at conveniently timed meetings. The EC technical project manager’s help may be enlisted to this end.

### 3.2.3 Interview participants

The evaluation team arranges interviews with selected participants.

The interviews should include a briefing on the project and a walkthrough of the questionnaire answers.

The interview programme shall be cost-effective, and the evaluation team should seek to minimise the time and costs of all participants by using the following techniques, as appropriate, in the order presented:

- mail, either postal or electronic
- telephone interview
- video-conference
- workshops for groups of related participants (same country)
- face-to-face interviews.

Face-to-face interviews should take advantage of pre-arranged meetings.

The evaluation team prepares a draft report of each interview and circulates it to participants for comment. The evaluation team then processes the comments and prepares the final interview report.

Interview reports and completed questionnaires are stored in the IDA Project Evaluation Infobase.

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8 This is not, strictly speaking, an interview, but an exchange of mail may be a suitable substitute in some cases.

9 Workshops can reduce costs by reducing the time spent by the evaluation team in meeting project participants.

10 It is good practice to have a formal write-up of the interview and to check its content with the interviewee, but the approach taken in a particular evaluation should take account of budget and timetable considerations.
In addition to conducting interviews with individuals, it is useful for the evaluators to observe the Member State participants acting as a group, for example to gauge the overall level of enthusiasm and commitment. The evaluators should attend at least one committee or working group meeting.

3.2.4 Prepare IDA Evaluation Report

1. The evaluation team completes the data reduction using the interview reports and completed questionnaires.

2. Questionnaire data should be processed to calculate the values of the metrics identified when the Questionnaire was defined (see Section 3.2.2). This implies that the metrics in the IDA Project Evaluation Model are calculated.

3. Questionnaire data should be collected into summary tables and graphs, where appropriate, for easy inspection.

4. In practice, there will probably be significant gaps and inconsistencies in the data. The data collection and analysis process will therefore involve verification, refinement, extrapolation, interpolation and estimating on the part of the evaluators.

5. The evaluation team prepares the draft IDA Evaluation Report according to the template described in Annex B.

6. The evaluation team should address the following questions when analysing the results and presenting their conclusions for a project:
   - What benefits have been achieved?
   - Have the costs been justified?
   - Has the budget been well spent?
   - Are the benefits proportionate to the costs?
   - What benefits will be achieved in the future?
   - Will the costs be justified?
   - How can the cost benefit ratio be improved?
   - Should it be continued?


8. The evaluation team updates the report and issues the final IDA Project Evaluation Report.

3.3 Readership of an IDA Project Evaluation Report

1. The terms of reference of the evaluators shall define the readership of the Draft and Final IDA Project Evaluation Report.

2. The readership of the Draft and Final IDA Project Evaluation Reports should include:
   - IDA programme management
- Sectoral management.

/3 The readership of the Final IDA Project Evaluation Reports may also include:
- TAC
- Sectoral committees.
4. **IDA PROJECT EVALUATION INFORMATION MODEL**

/1 The IDA Project Evaluation Information model consists of:

- identification information
- progress information
- cost and benefit information
- lessons learned.

/2 The IDA Project Evaluation Information is stored in the IDA Project Evaluation Infobase. The model described should be tailored to each evaluation.

4.1 **Identification information**

/1 Each project is assigned the following identification attributes:

- project group
- project id
- project name
- sub-project name
- technical manager
- customer type
- management type
- participants
- status.

/2 The project group is the name for the sector that the project serves, such as health or customs.

/3 The project id is an abbreviation for the project name, such as EIONET.

/4 The project name is the full title of the project, such as European Information and Observation Network.

/5 The sub-project name is the name for either a phase of the project or one of a number of parallel activities that might be subject to separate management and reporting.

/6 The technical manager may be an Agency such as EEA or part of the Commission, such as DG Health and Consumer Protection.

/7 The customer types of projects are:

- sectoral or “vertical”, i.e. serving one sector such as health or customs
- non-sectoral or “horizontal”, i.e. potentially serving more than one sector.

/8 Management type may be E, M, D or N as defined by Table 1 below [ref. 3].
Most horizontal actions are of type E. All new IDA sectoral projects are now, as a matter of policy, of type D. There should be few, if any, remaining IDA sectoral projects of type M. Type N are projects related to the establishment of “other sectoral networks” [Ref.6, Article 11].

The identification and contact details of the following participants should be defined:
- project officer of the technical management organisation
- project manager
- TAC representatives concerned
- QA contractor\(^{11}\).

Status may be [ref. 4]:
- preparatory
- feasibility
- development and validation
- implementation
- operations and maintenance\(^{12}\).

**4.2 Progress information**

The project is assigned the following progress attributes:
- objectives defined
- deliverables defined
- process\(^{13}\) defined
- organisation defined
- resources defined
- schedule defined

\(^{11}\) where appointed

\(^{12}\) Operations and Maintenance are not included in the Guide to Global Implementation Planning, but are included here for completeness.

\(^{13}\) The process should be decomposed into activities and tasks with defined inputs and outputs.
- objectives achieved
- activities starting and finishing on schedule
- deliveries made
- problem reports being handled appropriately
- risks being managed.

/2 Each attribute should be evaluated according to the level of achievement observed. This may be done on a scale 0 (no achievement), 1 (partially achieved), 2 (largely achieved) to 3 (fully achieved). A justification shall be provided if a score of 3 is not awarded. Scores facilitate comparison of projects (e.g. with others in a programme evaluation or with themselves at an earlier time). However, comparability may be affected by who conducts the evaluation. A qualitative assessment of the level of achievement, with good explanatory backup, is often more informative than a simple score.

/3 Information should be searched in the following sequence to evaluate an attribute:
- Plans
- Progress reports
- Completed Questionnaires
- Interviews.

4.3 Costs and benefits information model

/1 The costs and benefits of the project should be evaluated in the following dimensions\(^{14}\):
- financial
- quality
- project objectives.

4.3.1 Financial dimension

/1 The following metrics shall be determined for the financial dimension for each project:
- development costs to date
- development costs to go
- running costs to date
- running costs per year (actual or estimated)
- running costs per year (actual or estimated) of the system replaced, whether manual or automated, if appropriate\(^{15}\)

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\(^{14}\) Benefits increase the rating in that dimension whilst costs reduce the rating in that dimension.

\(^{15}\) Note that a number of IDA projects involve the introduction of new processes, in which case comparisons are not appropriate.
- change in running costs per year (actual or estimated) achieved with the introduction of the new system, if appropriate\(^{16}\)
- return on investment (see Annex C for guidance)
- costs saved to date by use of products and services of horizontal projects\(^{17}\)
- running costs saved per year (actual or estimated) by use of products and services of horizontal projects.

\(^{\text{/2}}\) All costs shall be evaluated in thousands of euros (k€). Labour costs shall be evaluated in man years. Development and running costs should include all components\(^{18}\):

- IDA contribution, including:
  - main project contract
  - any supporting contracts
  - any QA contract
  - any TESTA element
  - any other horizontal contribution
  - management and co-ordination effort by IDA Unit

- other contributions:
  - management and co-ordination effort by sectoral DG, Agency, MSA
  - MSA costs\(^{19}\)
  - any other costs.

\(^{\text{/3}}\) Gathering full and accurate data on costs can be difficult and expensive. Early in the process the evaluators should examine the cost elements (and benefit elements, if measurable) and determine orders of magnitude. Efforts should then be concentrated on acquiring accurate values for the large numbers that make a material difference to the total; other figures can be estimated if necessary.

### 4.3.2 Quality dimension

\(^{\text{/1}}\) The following metrics shall be evaluated for the Quality dimension for the project:
- number of problem reports\(^{20}\)
- planned functionality and actual functionality delivered

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\(^{16}\) This may be derived from the other financial metrics or measured separately. The other costs listed are absolute values; when it is not possible to measure costs absolutely it may be possible to measure them relatively.

\(^{17}\) Input from the relevant horizontal projects may be required.

\(^{18}\) The Commission may provide cost information for each sector with the estimated expenditure for each Member State in their Project Management Report.

\(^{19}\) There is no obligation on Member States to provide cost information.

\(^{20}\) The degree of use and user expectations of the products and services should be taken into account when evaluating the significance of the number of problem reports.
planned efficiency improvement and actual efficiency improvement
planned usability improvement and actual usability improvement
planned availability and actual availability.

/2 The functionality of the products or services of the project should be measured. Functionality may be measured in terms of function points\(^{21}\) or numbers of requirements or numbers of services.

/3 The efficiency of the system being supported by the products or services of project should be measured. Efficiency may be measured in terms of resource and time savings.

/4 The usability of the products or services of the project may be measured in terms of the time taken to learn how to use them.

/5 The availability of the products or services of the project may be measured in terms of percentage of time that they can be used during the possible operating periods.

4.3.3 Project objectives

/1 All project objectives\(^{22}\) should be evaluated in terms of both actual and future achievement.

/2 Actual achievement should be evaluated as 0 (not achieved), 1 (partially achieved), 2 (largely achieved), 3 (fully achieved). A justification shall be provided if a score of 3 is not awarded.

/3 Future achievement should be evaluated as 0 (will not be achieved), 1 (unlikely to be achieved), 2 (likely to be achieved), 3 (very likely to be achieved). A justification shall be provided if a score of 3 is not awarded.

/4 Project management should be evaluated as to whether it has have been effective in achieving project objectives as 0 (not effective), 1 (partially effective), 2 (largely effective), 3 (totally effective). A justification shall be provided if a score of 3 is not awarded.

/5 Actual and future achievement of the project objectives should be evaluated by calculating the sum of the actual or future achievement score and the project management score.

4.4 Lessons learned

/1 The lessons learned should be described in terms of:
- what the lesson is
- why the lesson is important

\(^{21}\) Function point analysis (FPA) is a technology-independent method of sizing software, first developed by Allan J. Allbrecht in the mid-1970s. See the International Function Point Users Group (IFPUG) website: www.ifpug.org.

\(^{22}\) Some project objectives may be target values for the financial and quality metrics identified in sections 4.3.1 and 4.3.2. If this is the case, the achievement of the financial and quality targets is evaluated. Note that the inclusion of the financial and quality dimensions in the evaluation ensures that the project is evaluated in these dimensions even if the project had no financial and quality objectives.
how to apply the lesson.

How to apply the lessons learned may be described in one or more of:

- rules to be applied
- risks to monitor.
5. MANAGEMENT OF AN IDA PROJECT EVALUATION

5.1 Organisation

/1 Each evaluation should be organised as a project, consisting of a project manager supported by consultants.

5.2 Qualifications of the evaluators

/1 The evaluators should be:

- knowledgeable about the IDA project domain
- experienced in progress and cost benefit evaluation
- sufficiently independent to be able to make credible, objective judgements.

/2 Any selection of evaluators is likely to involve compromise.

/3 The use of in-house resources to perform the evaluation is an option that should not necessarily be ruled out, although the probable benefit of increased knowledge needs to be weighed against the probable disadvantage of reduced independence. However, evaluation is not something to be conducted by the project manager, who should in any case be continuously monitoring progress towards achievement of defined objectives and making any necessary adjustments. 23

5.3 Control

/1 The evaluators should produce a plan for the evaluation as part of their proposal for the work. The plan should:

- reference the method, and describe and justify any changes that have been made
- describe the organisation of the evaluation team
- describe a work breakdown based upon the process model, listing work packages with estimates of the resource requirements (staff, effort, expenses)
- describe the schedule of the work, in terms the start and end dates of the work packages and the dates of milestones such as the deliveries of the draft and final reports.

/2 The plan should be reviewed and updated as the work proceeds.

/3 The evaluators should produce monthly progress reports about the evaluation. The reports should describe tasks completed, including meetings attended and documents produced. The progress report should report risks to the evaluation and describe any actions taken or recommended.

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23 In doing this the project manager may choose to use periodic self-assessment against some of the same criteria used for evaluation.
5.4 Planning assumptions

The evaluators should take the following factors into account when planning an evaluation:

- all project participants\(^24\) have to be included in the evaluation
- the average timescale for a system to become fully operational is 5 years, with 3 years in development and 2 years in pilot.

5.5 Schedule

An IDA project evaluation should not last more than six months. While the following timetable may be used as a starting point in scheduling the evaluation, every effort should be made to minimise the duration:

- month 1 Information Collection
- month 2 Define Questionnaire
- month 3 Interview Participants
- month 4 Prepare Project Evaluation Report
- month 5 Review Draft Project Evaluation Report

5.6 Costs

The cost of an IDA project evaluation should not exceed 5\% of the average biennial cost of the project.

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\(^{24}\) E.g. Member State representatives, Contractors, the European Commission
6. **ANNEX A GLOSSARY**

Definitions are presented in alphabetical order for reference. *Italicised* terms are defined in this Glossary.

- **Benefit**
  
  A *benefit* is a positive change in a *characteristic* that results in a positive change in the rating in the corresponding *dimension*. For example an increase in the “employment” characteristic is a benefit in the social dimension.

- **Characteristic**
  
  A *characteristic* is a concept for quantifying a *dimension*. In the social dimension, examples of characteristics are employment and unemployment. There may be multiple characteristics for each dimension. A *Metric* is a measure for a characteristic.

- **Cost**
  
  A *cost* is a positive change in a *characteristic* that results in a negative change in the rating in the corresponding *dimension*. For example an increase in the “unemployment” characteristic is a cost in the social dimension.

- **Cost-benefit analysis**
  
  There are two types of *cost-benefit analysis*: prospective and retrospective.
  
  - A prospective *cost-benefit analysis* evaluates the *costs* and *benefits* of one or more future actions and attempts to identify what actions would be worthwhile. One of the actions may be the null action: i.e. “do nothing” or “carry on as before”. Prospective analysis results in recommendations.
  
  - A retrospective *cost-benefit analysis* evaluates the *costs* and *benefits* of one or more past actions and attempts to identify what actions have been worthwhile. Retrospective analysis results in conclusions.

- **Cost-effectiveness analysis**
  
  *Cost-effectiveness analysis* evaluates the *costs* and *benefits* of each option for achieving a goal. The option that delivers the required results at minimum cost is chosen as the most ‘cost-effective solution’.

- **Derived metric**
  
  A *derived metric* is computed from *observable metric* data, rather than being measured directly. An example of a derived metric is Mean Time Between Failures.

- **Dimension**
  
  A *dimension* is a scale upon which *characteristics* are measured and thus *costs* and *benefits* can be evaluated. Benefits increase the rating in a dimension whilst costs reduce the rating in that dimension. Examples of dimensions are financial and social.
• **Generic service**
  
  A *generic service* can be used by multiple different vertical projects.

• **Horizontal project**
  
  A *horizontal* project, more accurately known as a horizontal action or measure (HAM), delivers services or products that may be applied to any vertical project. *Generic services* and *infrastructure projects* are examples.

• **Infrastructure project**
  
  An *infrastructure* project delivers products such as tools, facilities, specifications and guidelines for use by any vertical project.

• **Metric**
  
  A *metric* is a measure for a *characteristic*. Metrics enable quantitative evaluation of characteristics. Each characteristic may be measured in terms of one or more metrics. For example “number of people between 16 and 60 available for work who are without a job” is a metric for unemployment.

• **Observable metric**
  
  An *observable metric* can be measured directly (e.g. the number of problems arising in a given period).

• **Telematic network**
  
  A *telematic network* is a comprehensive data communications system, comprising not only the physical infrastructure and connections, but also the service and application layers which are built on top of this infrastructure, thus enabling the interchange of information electronically between organisations and individuals [ref. 5].

• **Vertical project**
  
  A *vertical* or *sectoral* project, also known in IDA2 as a project of common interest (PCI), delivers facilities and services to a specific group of end users.
7. **ANNEX B IDA EVALUATION REPORT TEMPLATE**

/1 Title page
- Title and nature of evaluation
- Title of project, generation, duration
- Identification of author, date of submission, commissioning service
- Identification of intended readership.

/2 Table of contents
- Main headings and sub-headings
- Index of tables and figures and graphs.

/3 Executive summary
- An overview of the entire report in no more than five pages.
- Key observations, conclusions and recommendations.

/4 Introduction
- A description of the project in terms of needs, objectives, delivery systems etc
- The context in which the project operates
- The purpose of the evaluation in terms of scope and main evaluation questions
- Summary of previous IDA Project Evaluation results.

/5 Evaluation approach
- Summary of the evaluation process
- Discussion of the strengths and weaknesses of the evaluation approach.

/6 Evaluation results
- Overview of the project, identifying objectives, progress and costs and benefits
- Overview of the project management measures and actions.

/7 Conclusions and recommendations
- Successes and failures
- Actions

/8 Annexes
- Terms of reference
- References
- Glossary

---

25 If it can be achieved, the summary should ideally fit on a single page (without recourse to very small fonts). Where this is not possible, a separate one-page synopsis may be useful.
- Records of Meetings
- Lists of documents received.
- Lessons learned about the evaluation method
- Press release
8. **ANNEX C ANALYSIS OF RETURN ON INVESTMENT**

/1 To perform a Return on Investment (ROI) analysis in the financial dimension, evaluate one or more of the following quantities:

- pay back time
- rate of return
- net present value
- internal rate of return
- cost gain
- time gain.

/2 The ‘pay back time’ is the time taken to recover the investment. If the total cost of a development project is X, and for every use of the resulting service there is a net benefit of Y, then:

\[
\text{Pay back time (months)} = \frac{X}{(Y \times N)}
\]

where N is the number of service uses per month. If there is insufficient financial data, the pay back time should be estimated in terms of the time to achieve significant benefits.

/3 The ‘rate of return’ is “the average annual return divided by the investment”.

/4 The ‘net present value’ is “the total return in today’s money, less the investment”, and measures the real return, taking account of discounts such as inflation and depreciation.

/5 The ‘internal rate of return’ is “the discount factor for zero net present value”; an increase in the discount factor results in an increase in the pay back time; a high internal rate of return indicates a high likelihood of getting your money back.

/6 The ‘cost gain’ is the cost to complete delivery of the benefits from the project if the project started now minus the cost to complete delivery of the benefits from the project at the stage it is actually at now.

/7 The ‘time gain’ is the time to complete delivery of the benefits from the project if the project started now minus the time to complete delivery of the benefits from the project at the stage it is actually at now.
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