



IDA QA Framework Contract n° 500872

IDA Project Evaluation Guide

Issue 1

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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) programme¹.
- /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
TAG	Telematics for Administrations Group

1.4 Reference documents

1. Proposal for a European Parliament and Council Decision on a series of guidelines, including the identification of projects of common interest, for trans-European networks for the electronic Interchange of Data between Administrations (IDA), 97/0340 (COD), Article 1

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.

2. IDA Evaluation Methodology Guide, Anite-W2/IDAQA/IDAEMG, Issue 1, November 1998
3. IDA Mid Term Evaluation Report, White Waghorn, MID02:v2.2, 25-Mar-97
4. Guide to IDA Global Implementation Planning, Anite Systems, ANITE-W2/IDAQA-SA1/PMM GIP, Jul-98
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)

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- /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 IDA programme² has evolved from being a source of funding for a loose collection of vertical projects to a rather more coordinated set of horizontal projects, with increasing emphasis being given to management and co-ordination of the programme.
- /4 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.
- /5 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?

- /1 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 achieved³.
- /2 An IDA Project Evaluation shall evaluate the effectiveness of administration and management of the project.
- /3 An IDA Project Evaluation shall identify the lessons learned.
- /4 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.

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 remain valid.

³ 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 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.

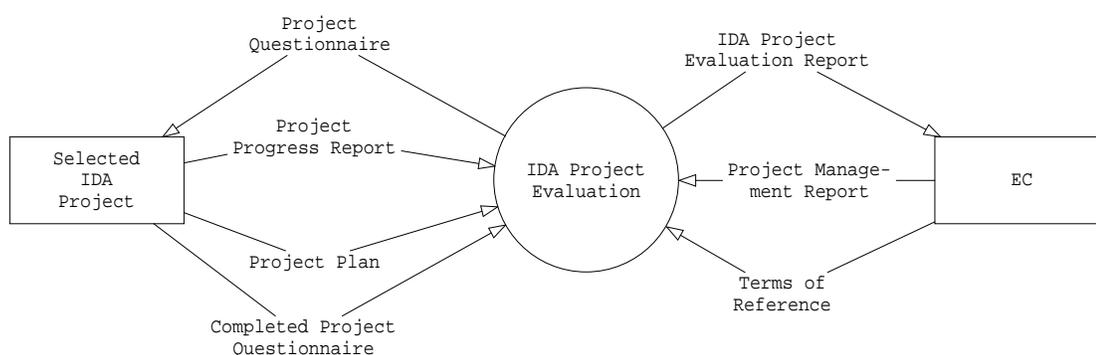


Figure 2: IDA Project Evaluation Inputs and Outputs

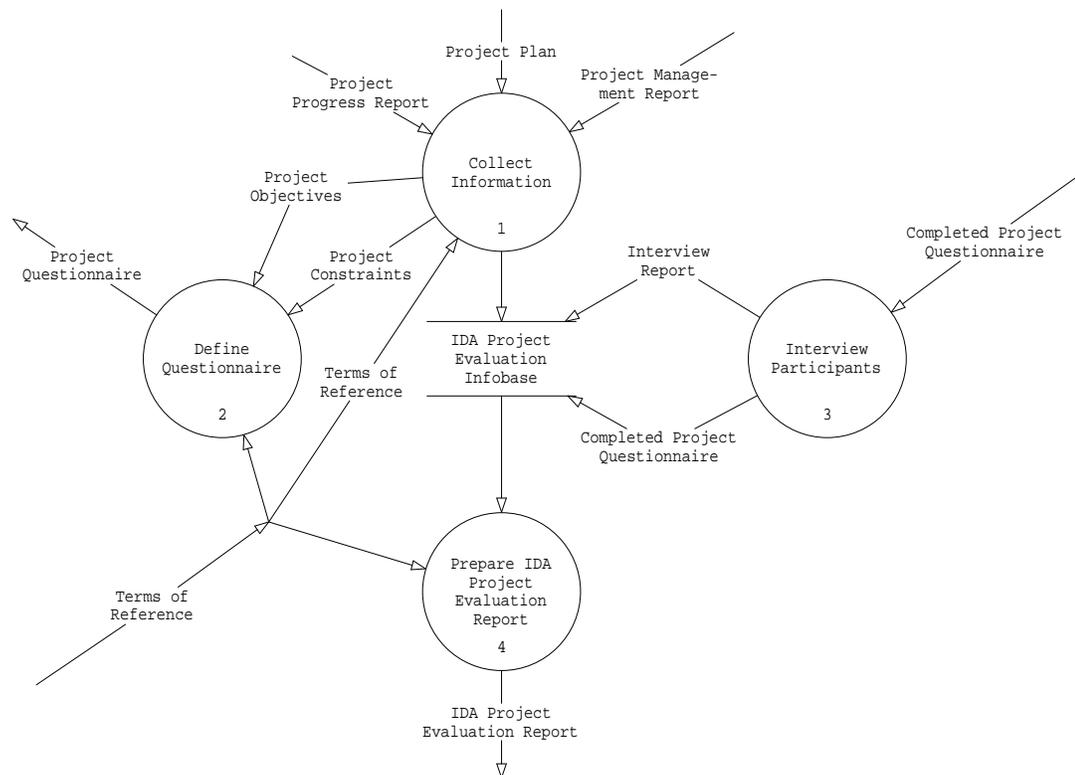


Figure 3: IDA Project Evaluation Process

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 project officer
 - project plans (e.g. project implementation plans)
 - project progress reports (i.e. produced by the project manager)
 - previous project evaluation reports⁴
 - a project management report from the Commission.
- /2 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

⁴

It is intended that 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.

- brief the evaluation team on the project constraints, particularly legal or political factors affecting the progress of the project⁵.
- /3 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

- /1 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.
- /2 The project questionnaire should be prepared according to the process shown in Figure 4 below.

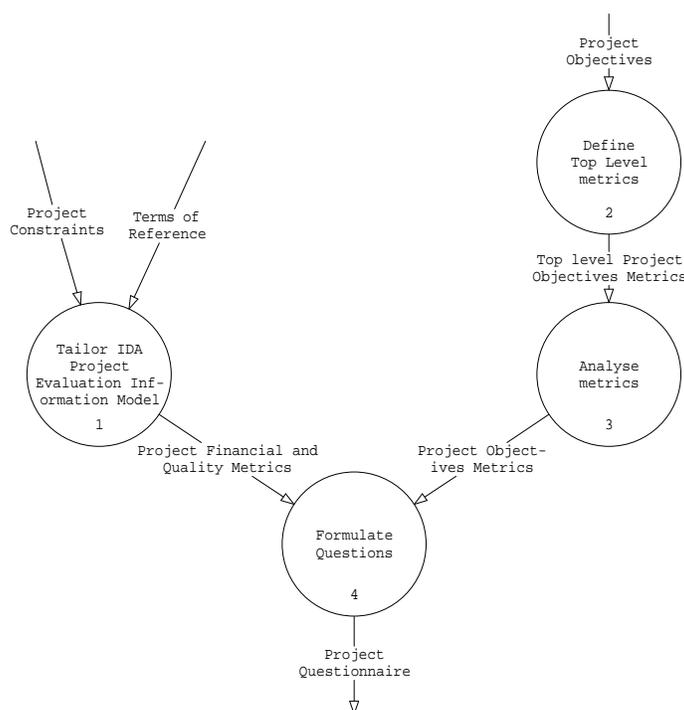


Figure 4: Define Questionnaire process

3.2.2.1 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)

⁵ A face-to-face briefing may be necessary.

3.2.2.2 Define Top-Level Metrics

- /1 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).

3.2.2.3 Analyse Metrics

- /1 Top-level metrics should then be analysed to:
- /2 identify lower-level metrics that are easier to measure
- /3 understand the factors affecting the value of the top-level metric.
- /4 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.

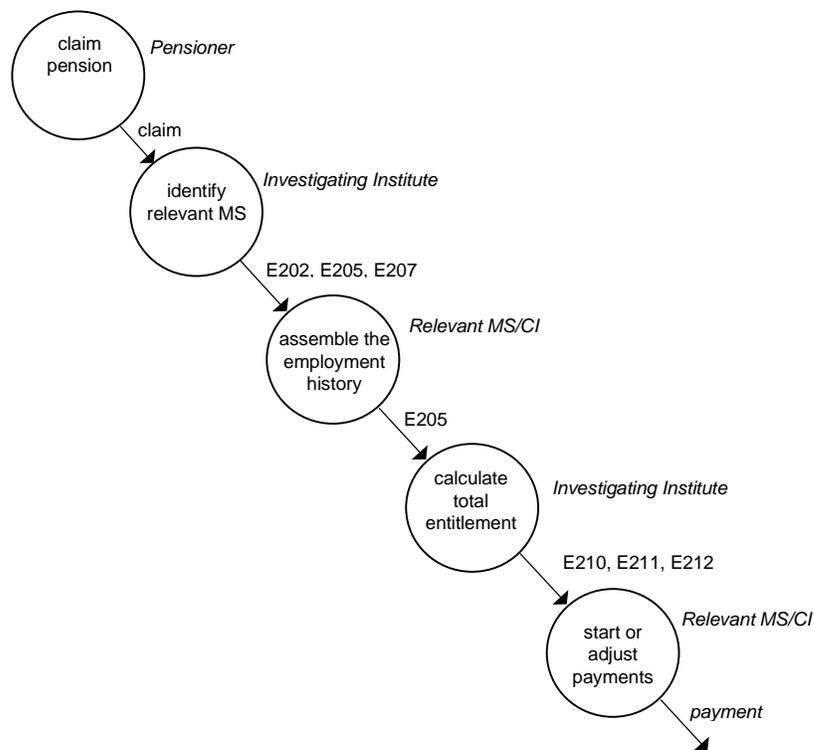


Figure 5 Pension Claim Settlement process

- /5 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.

- /6 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.

3.2.2.4 Formulate Questions

- /1 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.
- /2 The project questionnaire should be designed to ensure that:
- information already provided is not requested again
 - irrelevant questions are not asked.
- /3 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.
- /4 The project questionnaire may be piloted with selected participants. Any changes suggested by the pilot shall be approved by the Commission.
- /5 The evaluation team sends the questionnaire to the project participants.

3.2.3 Interview participants

- /1 The evaluation team arranges interviews with participants.
- /2 The interviews should include a briefing on the project and a walkthrough of the questionnaire answers.
- /3 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)⁶
 - face-to-face interviews.
- /4 Face-to-face interviews should take advantage of pre-arranged meetings.

⁶ Workshops can reduce costs by reducing the time spent by the evaluation team in meeting project participants.

-
- /5 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.
 - /6 Interview reports and completed questionnaires are stored in the IDA Project Evaluation Infobase.

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 The evaluation team prepares the draft IDA Evaluation Report according to the template described in Annex B.
- /5 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?
- /6 The Commission reviews the draft IDA Project Evaluation Report.
- /7 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:

- TAG
- 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 DG5.
- /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].

Project type		Budget	Contractual management	Technical management
E	IDA <u>E</u> xecuted	IDA	IDA Unit	IDA Unit
M	IDA <u>M</u> anaged	IDA	IDA Unit	Other
D	Sub- <u>D</u> elegated	IDA	Other	Other
N	Non-IDA (Devolved)	Non-IDA	Other	Other

Table 1: Management types

/9 Projects for which the *Technical Management* in Table 1 is recorded as “IDA Unit” are by definition of type E. Of the rest, the following DGs’ projects are of type D (and all other projects are of type M):

- DG1
- DG6
- DG15
- DG19
- DG21
- Eurostat.

/10 The identification and contact details of the following participants should be defined:

- project officer of the technical management organisation
- project manager
- TAG representatives concerned
- QA contractor⁷.

/11 Status may be [ref. 4]:

- preparatory
- feasibility
- development and validation
- implementation
- operations and maintenance⁸.

4.2 Progress information

/1 The project is assigned the following progress attributes:

- objectives defined
- deliverables defined

⁷ QA contractors are important sources of information on the IDA programme, and have been appointed for DG21 projects, FOURCOM, TESS, EMEA, EUPHIN, EIONET and TESTA.

⁸ Operations and Maintenance are not included in the Guide to Global Implementation Planning, but are included here for completeness.

- process⁹ defined
 - organisation defined
 - resources defined
 - schedule defined
 - objectives achieved
 - activities starting and finishing on schedule
 - deliveries made
 - problem reports being handled appropriately
 - risks being managed.
- /2 Each attribute should be evaluated 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.
- /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 dimensions¹⁰:
- 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

⁹ The process should be decomposed into activities and tasks with defined inputs and outputs.

¹⁰ Benefits increase the rating in that dimension whilst costs reduce the rating in that dimension.

- change in running costs per year (actual or estimated) achieved with the introduction of the new system¹¹
 - return on investment (see Annex C for guidance)
 - costs saved to date by use of products and services of horizontal projects
 - running costs saved per year (actual or estimated) by use of products and services of horizontal projects.
- /2 All costs shall be evaluated in kECU. Labour costs shall be evaluated in man years. Development and running costs should include all components¹²:
- DG III 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 costs¹³
 - any other costs.

4.3.2 Quality dimension

- /1 The following metrics shall be evaluated for the Quality dimension for the project:
- number of problem reports¹⁴
 - planned functionality and actual functionality delivered
 - 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 or numbers of requirements or numbers of services.

¹¹ 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.

¹² The Commission may provide cost information for each sector with the estimated expenditure for each Member State in their Project Management Report.

¹³ There is no obligation on Member States to provide cost information.

¹⁴ 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.

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- /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 The project objectives¹⁵ should be evaluated as to their relevance to the programme objectives as 0 (not relevant), 1 (partially relevant), 2 (largely relevant), 3 (fully relevant). A justification shall be provided if a score of 3 is not awarded.
- /2 All project objectives should be evaluated in terms of both actual and future achievement.
- /3 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.
- /4 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.
- /5 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.
- /6 Actual and future achievement of the project objectives should be evaluated by calculating the weighted and unweighted sums of the actual or future achievement scores of each project management score. The weights should be calculated by dividing the score for the relevance of the project to that of the programme by 3.

4.4 Lessons learned

- /1 The lessons learned should described in terms of:
 - what the lesson is
 - why the lesson is important
 - how to apply the lesson.
- /2 How to apply the lessons learned may be described in one or more of:
 - rules to be applied

¹⁵ 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.

- 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 sector
- experienced in progress and cost benefit evaluation
- sufficiently independent to be able to make credible, objective judgements.

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.

5.3 Planning assumptions

/1 The evaluators should take the following factors into account when planning an evaluation:

- all project participants¹⁶ 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.

¹⁶

E.g. Member State representatives, Contractors, the European Commission

5.4 Schedule

- /1 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
 - month 6 Issue Final Project Evaluation Report.

5.5 Costs

- /1 The cost of an IDA project evaluation should not exceed 5% of the average biennial cost of the project.

6 ANNEX A GLOSSARY

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

/1 *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.

/2 *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.

/3 *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.

/4 *Cost-benefit analysis*

There are two types of *cost-benefit analysis*: prospective and retrospective.

- a. 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.
- b. 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.

/5 *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’.

/6 *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.

/7 *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.

/8 *Generic service*

A *generic service* can be used by multiple different vertical projects.

/9 *Horizontal project*

A *horizontal* project delivers services or products that may be applied to any vertical project. *Generic services* and *infrastructure projects* are examples.

/10 *Infrastructure project*

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

/11 *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.

/12 *Observable metric*

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

/13 *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].

/14 *Vertical project*

A *vertical* project 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
 - 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:

$$\text{Pay back time (months)} = X / (Y * N)$$

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