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Guidelines

FOR DOCUMENTATION OF COMPUTER PROGRAMS AND AUTOMATED DATA SYSTEMS FOR THE INITIATION PHASE

CATEGORY: SOFTWARE
SUBCATEGORY: DOCUMENTATION

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Foreword

The Federal Information Processing Standards Publication Series of the National Bureau of Standards is the official publication relating to standards adopted and promulgated under the provisions of Public Law 89-306 (Brooks Bill) and under Part 6 of Title 15, Code of Federal Regulations. These legislative and executive mandates have given the Secretary of Commerce important responsibilities for improving the utilization and management of computers and automatic data processing systems in the Federal Government. To carry out the Secretary's responsibilities, the NBS, through its Institute for Computer Sciences and Technology, provides leadership, technical guidance, and coordination of government efforts in the development of technical guidelines and standards in these areas.

In October 1974, the Comptroller General of the United States in a report to the Congress noted that "adequate documentation of computer programs is clearly an essential element of efficient and economical use of computer systems." Good documentation should provide information to support the effective management of ADP resources and to facilitate the interchange of information. The NBS is pleased to make these Guidelines for Documentation of Computer Programs and Automated Data Systems for the Initiation Phase available for use by Federal agencies in establishing and evaluating documentation practices.

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Abstract

These guidelines provide a basis for determining the content and extent of documentation for the initiation phase of the software life cycle. Content guidelines are given for the following document types:

Project Request Document,
Feasibility Study Document, and
Cost/Benefit Analysis Document.

The guidelines are intended to be a basic reference and a checklist for general use throughout the Federal Government to plan and evaluate documentation practices.

Key Words: Automated data systems; computer programs; cost/benefit analysis; documentation; documentation content guidelines; feasibility study; FIPS guidelines; initiation phase; project request; software.

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Announcing the

GUIDELINES FOR DOCUMENTATION OF COMPUTER PROGRAMS AND AUTOMATED DATA SYSTEMS FOR THE INITIATION PHASE

Federal Information Processing Standards Publications are issued by the National Bureau of Standards pursuant to the Federal Property and Administrative Services Act of 1949, as amended, Public Law 89-306 (79 Stat. 1127), Executive Order 11717 (38 FR 12315, dated May 11, 1973) and Part 6 of Title 15 Code of Federal Regulations (CFR).

Name of Guideline. Guidelines for Documentation of Computer Programs and Automated Data Systems for the Initiation Phase.

Category of Guideline. Software, Documentation.

Explanation. These guidelines provide a basis for determining the content and extent of documentation for the initiation phase of the software life cycle.

Approving Authority. Department of Commerce, National Bureau of Standards (Institute for Computer Sciences and Technology).

Maintenance Agency. Department of Commerce, National Bureau of Standards (Institute for Computer Sciences and Technology).

Applicability. These guidelines are intended to be a basic reference and a checklist for general use throughout the Federal Government to plan and to evaluate documentation practices.

Implementation Schedule. Implementation is desirable at the earliest possible date to achieve more effective use of ADP resources and to facilitate interchange of information about computer programs and automated data systems.

Where documentation standards are already in existence, it is recommended that they be reviewed for conformance with the intent of this guideline and revised as needed to be consistent with the best use of available resources.

Specifications. The following pages define and describe the initiation phase of the software life cycle and provide content guidelines for the Project Request, Feasibility Study, and Cost/Benefit Analysis document types.

Qualifications.

a. These guidelines are not intended to fulfill the requirements of OMB Circular A-109. The documentation would need to be augmented to enable management to make the key decisions required by paragraph 9 of the Circular. The documents should also provide data on the alternative systems (paragraph 11) and demonstrations (paragraph 12) required by the Circular.

b. These guidelines are designed for documentation of data processing applications in the Federal Government. They are applicable to a broad class of software, but may need to be modified in individual circumstances.

Cross Index.

a. Guidelines for Documentation of Computer Programs and Automated Data Systems, Federal Information Processing Standards (FIPS) Publication 38, U.S. Department of Commerce, National Bureau of Standards, 1976 February 15.

b. Software Summary for Describing Computer Programs and Automated Data Systems, Federal Information Processing Standards (FIPS) Publication 30, U.S. Department of Commerce, National Bureau of Standards, 1974 June 30.

c. Management, Acquisition and Utilization of Automatic Data Processing, Federal Management Circular 74-5, General Services Administration.

d. Policies for Acquiring Commercial or Industrial Products and Services for Government Use, OMB Circular A-76, Office of Management and Budget, Executive Office of the President.

e. Discount Rates to be Used in Evaluating Time-Distributed Costs and Benefits, OMB Circular A-94, Office of Management and Budget, Executive Office of the President.

f. Guidelines for Accounting for Automatic Data Processing Costs, Federal Government Accounting Pamphlet No. 4, U.S. General Accounting Office, 1978.

g. Major System Acquisitions, OMB Circular A-109, Office of Management and Budget, Executive Office of the President.

h. Major System Acquisitions, A Discussion of the Application of OMB Circular A-109, OFPP Pamphlet No. 1, Office of Federal Procurement Policy, Executive Office of the President, August 1976.

Definitions. The following definitions reflect usage in this document. They are consistent with FIPS PUB 38.

a. *Computer Program.* A series of instructions or statements, in a form acceptable to a computer, prepared in order to achieve a certain result.

b. *Automated data system.* A set of logically related computer programs designed to accomplish specific objectives or functions.

c. *Software.* Computer programs and/or automated data systems.

Where to Obtain Copies of the Guidelines. Copies of this publication are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. When ordering, refer to Federal Information Processing Standards Publication 64 (NBS-FIPS-PUB-64) and title. When microfiche is desired, this should be specified. Payment may be made by check, money order, American Express Card, or NTIS Deposit Account.

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Department of Agriculture
Department of Housing and Urban Development
Department of Transportation
General Accounting Office
General Services Administration
National Bureau of Standards (DOC)
National Security Agency (DOD)
Office of Education (DHEW)
Public Health Service (DHEW)

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SPECIFICATIONS FOR

GUIDELINES FOR DOCUMENTATION OF COMPUTER PROGRAMS AND AUTOMATED DATA SYSTEMS FOR THE INITIATION PHASE

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Introduction

The planning, design, development, and implementation of computer programs and automated data systems[1] represent a considerable investment of human and automated resources. To maximize the return on this investment, and to provide for cost-effective operation, revision, and maintenance, sufficient documentation is needed at each stage of the software development life cycle. This publication, along with FIPS PUB 38,[2] has been prepared in response to that need.

Documentation provides information to support the effective design, management, operation, maintenance and transferability of ADP resources, and to facilitate the interchange of information. It serves to:

—Provide managers with technical documents to review at the significant development milestones in order to determine that requirements have been met and that resources should continue to be expended.
—Record technical information to allow coordination of later development and use/modification of the software.
—Facilitate understanding among managers, developers, programmers, operators, and users by providing information about maintenance, training, changes, and operation of the software.
—Inform other potential users of the functions and capabilities of the software, so that they can determine whether it will serve their needs.

The quality and consistency of software documentation depend on management commitment and the technical environment. The criteria for evaluating the adequacy of documentation will vary directly with the perceived need for documentation. The utility, quality, and acceptability of the documents prepared will provide a measure of the management judgment exercised in implementing the documentation guidelines.

This publication provides guidelines for the content of software documentation during the initiation phase of the software life cycle. It should be used in conjunction with FIPS PUB 38, which provides guidelines for the content of software documentation during the development phase of the software life cycle. Some of the material included here duplicates what is in FIPS PUB 38. This repetition is deliberate in order to achieve an independent but parallel basis for each guideline.

Guidelines for the content of three initiation phase document types are presented, along with criteria, so that management can determine when and how to use them. Part 1 states the purpose of each document type and its relationship to the software life cycle. Part 2 discusses considerations in using these documentation guidelines including guidance criteria that can be applied to determine the extent of documentation required. Part 3 details elements of the initiation phase. Part 4 presents content guidelines for the three document types: Project Request Document, Feasibility Study Document, and Cost/Benefit Analysis Document.

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[1] Throughout this FIPS PUB "software" is used in lieu of "computer program and/or automated data system."
[2] "Guidelines for Documentation of Computer Programs and Automated Data Systems," Federal Information Processing Standards Publication 38, National Bureau of Standards, U.S. Department of Commerce, 1976 February 15.

PART 1. DOCUMENTATION WITHIN THE SOFTWARE LIFE CYCLE

1.1 Scope. Computer programs and automated data systems evolve in phases from the time that an idea to create the software occurs through the time that software produces the required output. It is recognized that there are in current usage many different terminologies to identify these phases and the stages within these phases. Three phases applicable to the software life cycle are: initiation, development, and operation. In FIPS PUB 38 the development phase was addressed; here the initiation phase is addressed.

This publication provides content guidelines for three document types generally prepared during the initiation phase. Each of these document types can stand alone or be combined with others to meet specific documentation requirements. Figure 1 relates the preparation of document types to the stages in the initiation and development phases. The amount of documentation produced is flexible, and this flexibility is discussed in Part 2. A discussion of the key activities of the initiation phase and a diagram of their relationship to the three document types are contained in Part 3. Content guidelines for the three initiation phase document types are provided in Part 4.

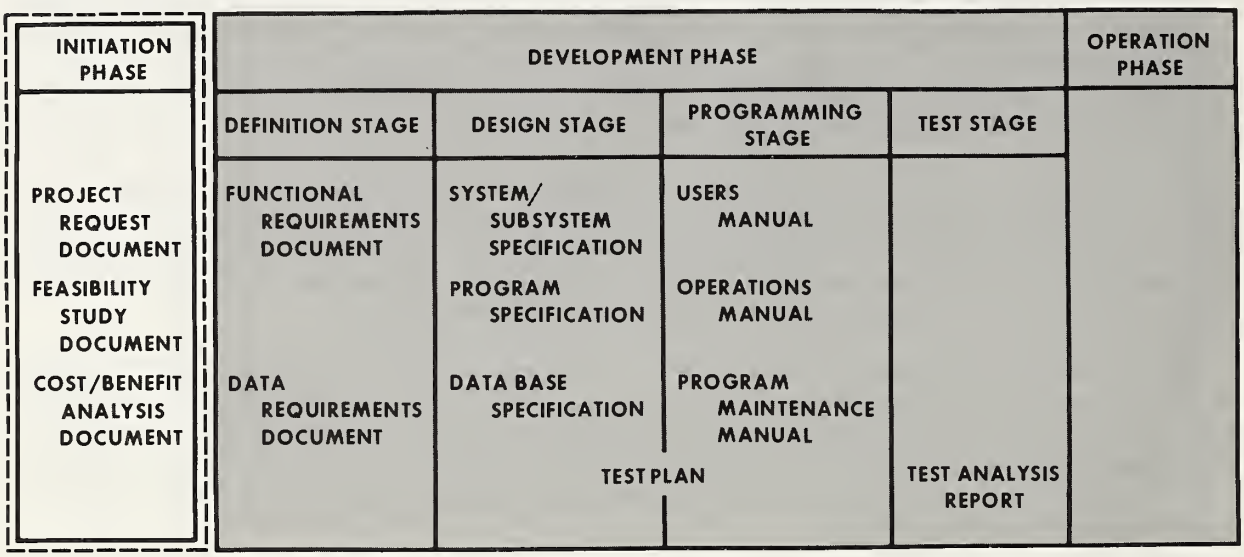

FIGURE 1. *Documentation within the software life cycle.*

1.2 Phases. While the terminology used to describe the phases is arbitrary, it provides a convenient framework within which the development of software may be discussed.

1.2.1 Initiation. During the Initiation Phase, the objectives and general definition of the requirements for the software are established. Project Request, Feasibility Study, and Cost/Benefit Analysis documents may be prepared during this phase.

1.2.2 Development. During the Development Phase, more detailed requirements for the software are determined and the software is then defined, specified, programmed, and tested. Documentation is prepared within this phase to provide an adequate record of the technical information developed. See FIPS PUB 38 for content guidelines for ten document types which may be prepared during the four stages of the Development Phase.

1.2.3 Operation. During the Operation Phase, the software is maintained, evaluated, and changed as additional requirements are identified.

1.3 Document Types. The purpose of each of the three document types is defined in the following paragraphs. All three documents require user involvement to define the project and its worth.

1.3.1 Project Request Document. The purpose of the Project Request Document is to provide the means for a user organization to request the development, procurement or modification of software or other ADP-related services. It serves as the initiating document in the software life cycle, and provides a basis for communication with the requesting organization to further analyze requirements and assess impacts.

1.3.2 Feasibility Study Document. The purpose of the Feasibility Study Document is to provide: (1) an analysis of the objectives, requirements and system concepts; (2) an evaluation of alternative approaches for reasonably achieving the objectives; and (3) identification of a proposed approach. This document, in conjunction with the Cost/Benefit Analysis Document, should provide management with adequate information to make decisions to initiate or continue the development, procurement or modification of software or other ADP-related services. The Feasibility Study Document may be supplemented with an appendix containing details of a cost/benefit analysis, or may be considered with a separate Cost/Benefit Analysis Document.

1.3.3 Cost/Benefit Analysis Document. The purpose of the Cost/Benefit Analysis Document is to provide managers, users, designers and auditors with adequate cost and benefit information to analyze and evaluate alternative approaches. This document, in conjunction with the Feasibility Study Document, should provide the information for management to make decisions to initiate or continue the development, procurement or modification of software or other ADP-related services. The Cost/Benefit Analysis Document may be prepared as a separate document, or details of the cost/benefit analysis may be appended to the Feasibility Study Document.

PART 2. DOCUMENTATION CONSIDERATIONS

Documentation preparation should be treated as a continuing effort, evolving from preliminary drafts, through changes and reviews, to the delivery of the documentation and software. The extent of documentation to be prepared is a function of agency management practices and the size, complexity and risk of the project.

2.1 Responsibilities. Separable responsibilities which are inherent in the flexible nature of these guidelines are:

a. Definition of agency guidance to project managers as to what documentation should be prepared under various conditions; what level of security should be required, if any; and what levels of detail, extent and formality the document should be prepared.

b. Determination by a project manager of the documentation plan for a specific project, including:

(1) What document types apply and should be prepared.
(2) The formality, extent, and detail of the documentation.
(3) Responsibilities and a schedule of preparation for the documentation.
(4) Procedures and schedule of review, approval, and distribution and the distribution list.
(5) Responsibilities for documentation maintenance and change control throughout the system life cycle.

The formality, degree of detail, and other determinations by the project manager in specific cases will be more consistent if agency guidance and criteria are established. In general, as the size, complexity, and risk of a project increase, so does the need for formal, extensive, detailed documentation.

2.2 Document Audiences. Each document type is written for a particular "audience." The audience may be an individual or a group of individuals who are expected to use the document contents to perform a function, e.g., management, operation, maintenance, design, programming. The information should be presented using the terminology and level of detail appropriate to the audience, and all unusual terminology and acronyms should be explained.

2.3 Redundancy. The three document types in this guideline have some apparent redundancy. This apparent redundancy is of two types. Introductory material has been included in each document type to provide the reader with a frame of reference. This information has been included to minimize the need for cross-referencing to parts of other documents that may have been produced.

Additionally, some of the document types specify the inclusion of material also specified in another document type. In particular, some of the information presented in the Feasibility Study Document of this guideline overlaps that in the Functional Description Document of FIPS PUB 38, and there is overlap between the Feasibility Study and the Cost/Benefit Analysis Documents. However, since the documents are prepared at different points in the software life cycle, and the information is intended to be read by different audiences, such redundancy provides a "stand alone" approach for each guideline.

2.4 Flexibility. An attempt has been made to provide a consistent organization scheme within the various document types. The following paragraphs describe options which should be considered to achieve flexibility in the use of the guidelines.

2.4.1 **"Sizing" of Document Types.** Each document type outlined may be used to prepare documents that range from a few to several hundred pages in length. The size depends on the size and complexity of the project and the judgment of the project manager as to the level of detail needed.

2.4.2 **Combining and Expanding Document Types.** It is occasionally necessary to combine several document types under one cover or to produce several volumes of the same document type. For example, two document types presented in this guideline may be combined into one. When this is done, the substance of the contents covered by each document type should be presented using the outline of that document type, such as, Part I—Feasibility Study, Part II—Cost/Benefit Analysis. Another possibility is to include the cost/benefit analysis information as an appendix to the Feasibility Study Document.

2.4.3 **Format.** The content guidelines in Part 4 have been prepared using a generally consistent format. Use of this particular format is encouraged but is not essential.

2.4.4 **Sequencing of Contents.** In general, the order of the sections and paragraphs in a particular document type should be the same as shown in the content guidelines in Part 4. The order may be changed if it enhances the presentation.

2.4.5 **Section/Paragraph Titles.** In general, the titles of sections and paragraphs should be the same as shown in the content guidelines. The titles may be modified to reflect terminology unique to the software being documented if the change enhances the presentation. Sections or paragraphs may be added or deleted as internal requirements dictate.

2.4.6 **Expansion of Paragraphs.** Many of the document types have paragraphs with a general title and a list of factors that might be discussed within that paragraph. The intent of the content guidelines is not to prescribe a discussion of each of these items, but to suggest that these items be considered in writing that paragraph. These and all other paragraphs may be expanded and further subdivided to enhance the presentation.

2.4.7 **Figures.** Some problem solutions are treated best in the form of graphic representations, e.g., figures, decision tables, flowcharts. Any of these may be included in or appended to the documents produced.

2.4.8 **Forms.** The use of specific forms is dependent on practices in an agency. Some of the information specified in a paragraph in the content guidelines may be recorded on such forms. If so, the form should be referenced from the appropriate paragraph. The use of standard forms is encouraged.

2.5 **Documentation Guidance.** The formality, extent, and level of detail of documentation to be prepared are functions of agency ADP management practices and the size, complexity, and risk of a project. The amounts and kinds of documentation required will depend on the scope of each individual project. Generally, a Project Request Document is required. The extent of Feasibility Study and Cost/Benefit Analysis Documents depend on management and project requirements. All three document types apply to both new systems, and systems undergoing modification or enhancement.

PART 3. ACTIVITIES OF THE INITIATION PHASE

3.1 Key Activities. The key activities of the initiation phase of the system life cycle follow:

—Define objectives and criteria of the project;
—Prepare Project Request documentation;
—Identify and define assumptions;
—Identify and define alternatives to be considered;
—Assess the technical and operational feasibility of each alternative;
—Estimate the costs (non-recurring and recurring) of each alternative;
—Define and estimate the quantifiable benefits of each alternative;
—Describe intangible and non-quantifiable benefits;
—Compare the technical and operational feasibility, and the economic desirability of each alternative;
—Analyze the sensitivity, uncertainty and risk of each alternative;
—Prepare Feasibility Study documentation; and
—Prepare Cost/Benefit Analysis documentation.

Figure 2 illustrates the relationship of these key activities to the three document types.

3.2 Define Objectives and Criteria. The first step in the initiation phase is to define the objectives to be satisfied by the project. The project objectives govern: (1) the definition of the objectives and criteria for the study of feasibility, and (2) the analysis of the costs and benefits of the various alternatives.

3.3 Prepare Project Request Documentation. The Project Request Document is used as a means of establishing and defining project objectives. The overall system concept, as envisioned by the requestor, should be stated in functional terms in order to provide analysts a framework within which to conduct feasibility, cost/benefit and design activities. Criteria for evaluating the feasibility, costs and benefits should be specified, when possible, in the Project Request Document.

3.4 Identify and Define Assumptions. The scope and validity of the feasibility study and cost/benefit analysis will be limited by the assumptions used. Assumptions are statements of the "givens" of organizational and managerial constraints, priorities, and technical and operational considerations which define the context of the analyses. Two assumptions that are commonly made are: (1) operational life of the system based on program, organizational and economic considerations; and (2) relevant period for the comparison of alternatives. All assumptions should be documented in both the Feasibility Study and Cost/Benefit Analysis Documents.

3.5 Identify and Define Alternatives. A key creative process of system designers is to identify and then define the alternative structures and methods of satisfying the objectives of a system development project. Formulating viable alternatives, and structuring them for further analysis and consideration should be documented in the Feasibility Study Document.

3.6 Assess Technical and Operational Feasibility. The technical feasibility, i.e., the capability of meeting user requirements with available technology and methods of operation, must be assessed in the feasibility study. Similarly, the operational feasibility, the ability to fit the particular alternative to the operational pattern and resources of the organization, must be assessed. Both aspects should be documented in the Feasibility Study Document.

RELATIONSHIP OF THE KEY ACTIVITIES OF THE INITIATION PHASE TO THE THREE DOCUMENT TYPES

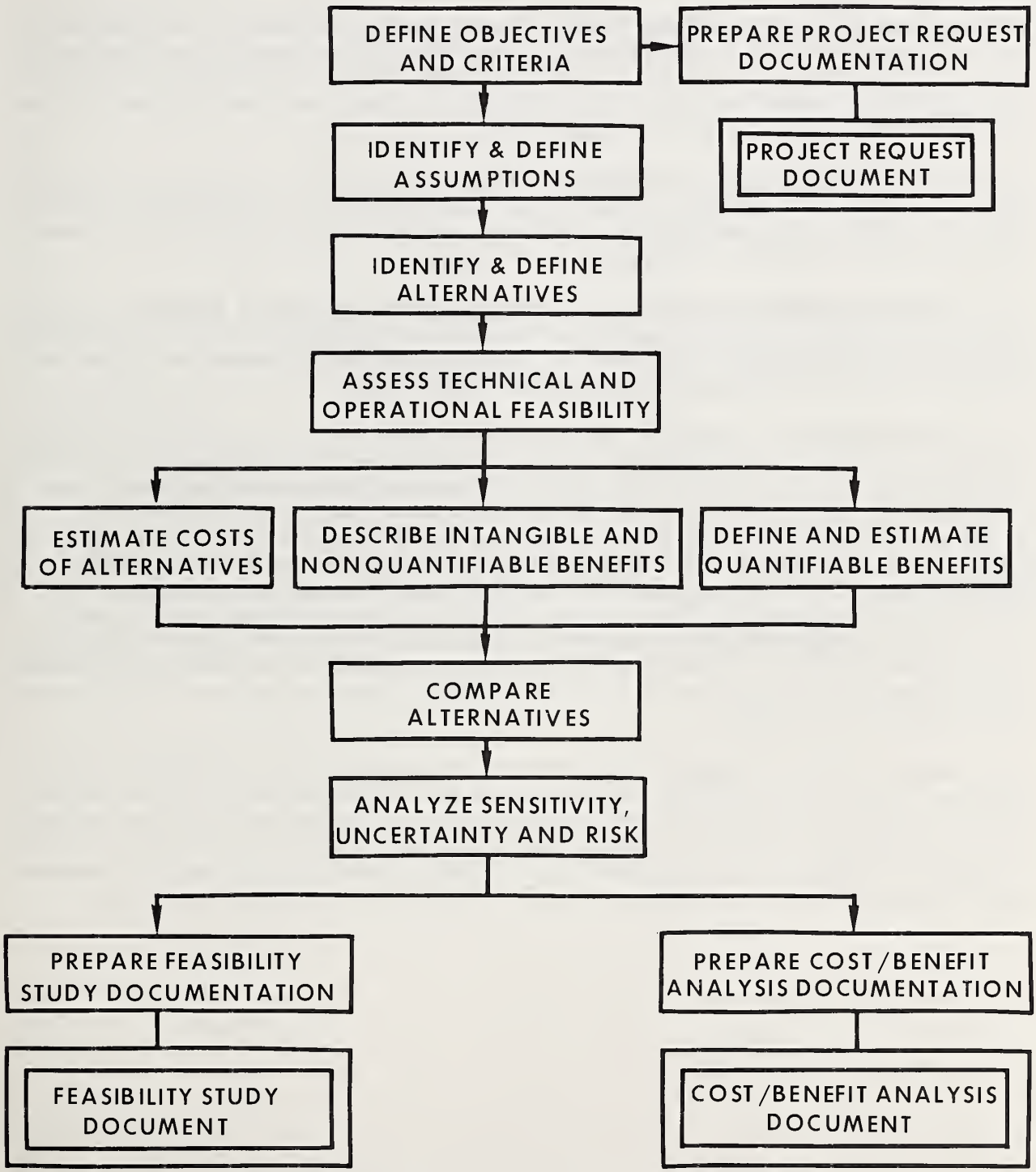

FIGURE 2. *Relationship of the key activities of the initiation phase to the three document types.*

3.7 Estimate Costs of Alternatives. Both the non-recurring and the recurring costs of each alternative must be estimated and documented in either: (1) the optional cost section or appendices of the Feasibility Study Document, or (2) a Cost/Benefit Analysis Document. The content guidelines for the Cost/Benefit Analysis Document list common non-recurring and recurring cost elements.

3.8 Define and Estimate Quantifiable Benefits. Define any quantifiable and estimable benefits, or substitute indices of effectiveness; and estimate their values for each alternative. Documentation of the values and the underlying detail usually calls for the preparation of the Cost/Benefit Analysis Document. Current Federal guidance prescribes estimation of the benefits for each year of the period of comparison.

3.9 Describe Intangible and Non-Quantifiable Benefits. Frequently the benefits and indices of effectiveness for each alternative cannot be quantitatively defined or estimated. It is important to describe the intangible and non-quantifiable benefits, and any indices of effectiveness, for each alternative in the Cost/Benefit Analysis Document.

3.10 Compare the Alternatives. Compare the technical and operational feasibility and the economic desirability of each alternative for technical and management review. The content guidelines for the Feasibility Study and the Cost/Benefit Analysis Documents will facilitate the documentation of results and the comparison of alternatives.

3.11 Analyze Sensitivity, Uncertainty and Risk. Sensitivity analysis is a tool for assessing the extent to which costs and benefits are sensitive to changes in key factors: e.g., length of operational life; volume, mix, and pattern of workload; requirements; configuration of equipment and operating software; and significant assumptions. Sensitivity analyses, conducted on different configurations with each alternative proposal, can provide a range of costs and benefits which are likely to be a better guide than a single estimate. A section of the Cost/Benefit Analysis Document addresses the content of a typical sensitivity analysis.

3.12 Prepare Feasibility Study Documentation. Preparation of the Feasibility Study Document is a key activity in the initiation phase. The presentation of the results of the study should provide management with adequate information to make a decision as to the development of the proposed system.

3.13 Prepare Cost/Benefit Analysis Documentation. Preparation of the Cost/Benefit Analysis Document is also a key activity in the initiation phase. Clarity, accuracy, and thoroughness of this document are essential in providing management with information about proposed alternatives. Documentation is an integral part of the analysis process, and therefore should be prepared throughout the cost/benefit study. Further, producing concise and complete final documentation of the initiation phase will contribute to the success of the project.

PART 4. CONTENT GUIDELINES FOR DOCUMENT TYPES

Part 4 provides content guidelines for the following three document types discussed in Parts 1, 2 and 3.

4.1 Project Request Document
4.2 Feasibility Study Document
4.3 Cost/Benefit Analysis Document

These document types are presented in the order of development within the software life cycle. Included for each document type are a table of contents and a description of the contents of that document type. The page numbers cited in the table of contents for each document type refer to the internal numbers within each document type.

4.1 Project Request Document

The purpose of the Project Request Document is to provide a means for a user organization to request the development, procurement or modification of software or other ADP-related services. It serves as the initiating document in the software life cycle, and provides a basis for communication with the requesting organization to further analyze requirements and assess impacts.

Contents

Project Request Document

1. ADMINISTRATIVE INFORMATION

The information in this section is supplied by the requesting organization.

1.1 **Authorization of Request.** The following information may appear on a cover sheet, within the text of the document, or on a separate form: authorization by the requesting official, date of authorization, and any accounting data or codes.

1.2 **Identification of Request.** Provide information for the following items:

1.2.1 Project Title or Name. Provide the functional/descriptive name of the project followed by the designated abbreviation, if applicable.

1.2.2 Requesting Organization. Provide the name of the requesting organization.

1.2.3 Date of Request. Enter the date of the request.

1.2.4 Requesting Individual/Contact. Provide the name of the individual who will act as the principal contact on all matters related to the project (name, title, phone number).

1.2.5 Type of Request. Summarize the general nature of the service being requested, e.g.: application development, procurement or modification; system analysis, design, programming or testing; report generation; ADP survey; equipment evaluation; consultation; or file building.

1.3 **Priority Considerations.** Indicate the priority of the project as follows:

1.3.1 Priority of Request. Indicate rank order of the request relative to other project requests by the same organization.

1.3.2 Required Date. Provide the date on which the service requested must be completed.

2. DESCRIPTIVE INFORMATION

The information in this section is supplied by the requesting organization.

2.1 **Objectives.** Describe the basic requirements and objectives of the project, including the tasks, schedules, scope or level of effort that could be used as evaluation criteria.

2.2 **Description of Service.** Provide a general statement concerning the nature of the service requested and the overall system concept. The description should, in general terms, describe what functions have to be accomplished within the period of time available. When possible, provide information on inputs, processing capabilities and desired outputs.

2.3 **Reason for Request.** Provide reasons for the request, e.g., a result of new or changed legislation, changes in Agency policy, correction of an error or omission, improvement of current operations, addition of new reports or new elements of data in reports, or data collected.

2.4 **Relationship to Other Systems.** If the requested project relates directly or indirectly to other systems/functions/procedures indicate the relationships in terms of common inputs, processing capabilities, outputs, etc.

2.5 **Privacy/Security Considerations.** Identify data which falls within the purview of the Privacy Act of 1974, Freedom of Information Act, and other privacy and security considerations.

2.6 **Organizations Affected.** Identify those organizations affected by action required on the project request.

2.7 **References.** List any pertinent reference documents, letters, memos or publications. Provide complete identification for each item, e.g., originator, addressee, date and title.

3. CONTROL INFORMATION

The information in this section is supplied by the receiving/processing organization. The information is dependent on internal agency administrative procedures. Common elements of control information are described in this section.

3.1 **Receipt of Request.** Receipt of request should initiate investigation by the receiving/processing organization. Such an investigation can involve an individual within the receiving/processing organization meeting with the requestor to discuss details of the project and to get a better understanding of what the requestor wants. Initial investigation also involves determining whether to undertake a feasibility study, or analysis, and assessing the availability of resources.

3.1.1 Date Request Received. Enter the date that the request is received by the receiving/processing organization.

3.1.2 Responsibility. Identify the project manager or other individual assigned to investigate the request (name, title, organization, phone number).

3.2 **Disposition of Request.** Disposition of the request is based on the initial investigation undertaken by the receiving/processing organization.

3.2.1 Disposition. Indicate whether the request is accepted, rejected or deferred, and why.

3.2.2 Responsibility. Identify the individual processing the request for disposition (name, title, organization, phone number).

3.2.3 Date of Completion. Indicate whether the date refers to completion of the initial investigation, or completion of the service requested.

3.2.4 Project Code Assigned. Identify the agency number assigned to the project.

3.3 **Estimated Cost Data.** Provide cost estimates for completion of the feasibility study or other analysis, and the project as a whole. Significant cost factors may include personnel effort, equipment, support services and telecommunications.

3.4 **Remarks.** Include any additional information, such as problems encountered and references attached.

4.2 Feasibility Study Document

The purpose of the Feasibility Study Document is to provide: (1) an analysis of the objectives, requirements and system concepts; (2) an evaluation of alternative approaches for reasonably achieving the objectives; and (3) identification of a proposed approach. This document, in conjunction with the Cost/Benefit Analysis Document, should provide management with adequate information to make decisions to initiate or continue the development, procurement or modification of software or other ADP-related services. The Feasibility Study Document may be supplemented with an appendix containing details of a cost/benefit analysis, or may be considered with a separate Cost/Benefit Analysis Document.

Contents

Feasibility Study Document

1. GENERAL INFORMATION

1.1 Summary. Summarize the general nature of the proposed system including justification, schedule and end products.

1.2 Environment. Identify the:

a. Project sponsor, developer, user and computer center or network where the software will be implemented.
b. System input, output, processing and security/privacy requirements.
c. Interaction with other systems or organizations.

1.3 References. List applicable references, such as:

a. Project request (authorization).
b. Previously published documents on the project.
c. Documentation concerning related projects.
d. FIPS publications and other reference documents.

2. MANAGEMENT SUMMARY

Present pertinent facts to assure that the proposed system addresses current system requirements. Include brief statements of system requirements, objectives, assumptions and constraints, methodology, evaluation criteria and a summary of recommendations. Detailed analysis is presented in Section 3.

2.1 Requirements. State the requirements of the proposed system, such as:

a. New services.
b. Increased capacity.
c. Legislative and policy requirements.
d. Privacy and security.
e. Audit controls.
f. Target/completion date.

2.2 Objectives. State the major performance objectives of the proposed system, such as:

a. Reduced manpower and equipment costs.
b. Increased processing speed.
c. Increased productivity.
d. Improved management information services.
e. Improved controls over automated decision making systems.
f. Compliance with regulations.

2.3 **Assumptions and Constraints.** Present the assumptions and constraints of this study, such as:

a. Operational life of the proposed system.
b. Period of time for comparison of system alternatives.
c. Interaction of the proposed system with other systems and organizations.
d. Input, processing and output requirements.
e. Financial constraints.
f. Legislative and policy constraints.
g. Changing hardware/software/operating environment.
h. Availability of information and resources.

2.4 **Methodology.** Identify how this study was accomplished and how the proposed system was evaluated. Summarize the general method or strategy employed, such as: survey, weighting, modeling, benchmarking or simulation.

2.5 **Evaluation Criteria.** Identify the criteria employed in arriving at the recommendations summarized in paragraph 2.6, such as: cost, priority, development time or ease of use.

2.6 **Recommendation.** State the recommendation for the proposed system, including consequences of not taking action, and what delays can be tolerated.

2.7 **Other Alternatives Considered.** Summarize each alternative considered and state the reason for non-selection.

3. SYSTEM REQUIREMENTS AND OBJECTIVES

This section should describe the requirements and objectives of the proposed new system, or the proposed change to the existing system. Mandatory items should be identified.

3.1 **Requirements.** Describe the requirements as follows:

3.1.1 Outputs. Describe system outputs, e.g., reports, documents or data. For each output, include characteristics such as use, frequency of production, interfaces and distribution.

3.1.2 Inputs. Describe system inputs including: source of data; type, volume, and organization of data; and frequency of submission.

3.1.3 Files Description. Describe the contents, purpose, use and update frequency of each file.

3.1.4 Validation. Describe any validation criteria.

3.1.5 Processing/Data Flow. Describe the major processing/data flow. The flow should be presented in graphic form, e.g., flowchart or block diagram supplemented by narrative.

3.1.6 Security, Privacy and Control. State the detailed requirements for security, privacy and control.

3.1.7 Information Storage and Retrieval. Specify any information storage and retrieval requirements.

3.1.8 Interface. Identify any systems with which the proposed new/changed system must interface.

3.2 **Objectives.** State the major performance objectives of the proposed system, such as:

a. Reduced clerical, data processing or equipment rental costs.
b. Increased processing speed.
c. Increased productivity.
d. Improved management information services.
e. Prevention of automatic computer issuance of incorrect payments.
f. Improved manpower utilization.

4. ANALYSIS OF EXISTING SYSTEM

The purpose of analyzing the existing system is to provide a basis for determining the economic and management advantages of the proposed new system or change. This section should include the information in the following paragraphs.

4.1 **Processing/Data Flow.** Describe the major processing/data flow of the existing system. The flow should be presented in graphic form, e.g., flowchart or block diagram, supplemented by narrative.

4.2 **Workload.** Specify the volume of work handled by the existing system.

4.3 **Costs.** Itemize costs incurred in operating the existing system, e.g., manpower, equipment, space, support services, materials and overhead. Details of costs may be presented in a Cost/Benefit Analysis Document or an appendix to this document.

4.4 **Personnel.** Identify skill categories and number of personnel required to operate/maintain the existing system.

4.5 **Equipment.** Itemize any equipment used by the existing system.

4.6 **Limitations.** Identify any limitations of the existing system, such as inadequate or untimely information needed to make a decision, delay in getting data to the user, resource constraints, and organization and policy problems.

4.7 **Special Considerations.** Identify any other factors unique to this system.

5. PROPOSED SYSTEM

This section should describe how the objectives and requirements of the proposed system will be met. All concerned parties must be made aware of impacts on other systems. This section should be prepared for the proposed system; note that Section 6 contains descriptions of other feasible alternative systems.

5.1 **Description of Proposed System.** Present the overall system concept and describe how the requirements in Section 3 will be met. If software tools or methodologies associated with software engineering are used, describe them in the context of the overall requirements.

5.2 **Improvements.** Describe the improvements of the proposed system in terms of the objectives in Section 3.2.

5.3 **Impacts.** Describe the anticipated impacts of the proposed system, including potential conversion problems.

5.3.1 Equipment Impacts. Describe new equipment requirements and changes to currently available equipment.

5.3.2 Software Impacts. Describe any additions or modifications needed to existing applications and support software in order to adapt them to the proposed system.

5.3.3 Organizational Impacts. Describe any organizational, personnel and skill requirement changes.

5.3.4 Operational Impacts. Describe the effects on operations, such as:

a. User operating procedures.
b. Operating center procedures.
c. Operating center/user relationships.
d. Source data processing.
e. Data entry procedures.
f. Data retention requirements and information storage and retrieval procedures.
g. Output reporting procedures, media and schedules.
h. System failure consequences and recovery procedures.

5.3.5 Developmental Impacts. Describe developmental impacts, such as:

a. Specific activities to be performed by the user in support of development of the proposed system.
b. Resources required to develop the data base.
c. Computer processing resources required to develop and test the new system.
d. Privacy and security implications.

5.3.6 Site/Facility Impacts. Describe building modification requirements.

5.3.7 Cost Impacts. Describe cost factors that may influence the development, design and continued operation of the proposed system.

6. ALTERNATIVE SYSTEMS

Describe each alternative system considered. If no alternatives were considered, so state.

6.1 Alternative System 1. Describe alternative system 1, following the outline of Section 5. State the reasons for non-selection.

6.2 Alternative System n. Describe alternative system n, following the outline of Section 5. State the reasons for non-selection.

7. RATIONALE FOR RECOMMENDATIONS

State the reasoning which supports the recommendation of the proposed system (presented in Section 5) over the alternative systems (presented in Section 6). Include all quantifiable and non-quantifiable benefits, required resources, possible effects of delay, and consequences of not taking action.

8. PROPOSED SCHEDULE

Outline a proposed schedule to include detail system design, programming, program test, conversion and implementation. Identify major milestones and management decision points.

APPENDIX. DETAILS OF COST/BENEFIT ANALYSIS

If a separate Cost/Benefit Analysis Document will not be prepared, supplement the Feasibility Study Document with an appendix containing the details of a cost/benefit analysis. Follow the content guidelines of the Cost/Benefit Analysis Document.

4.3 Cost/Benefit Analysis Document

The purpose of the Cost/Benefit Analysis Document is to provide managers, users, designers and auditors with adequate cost and benefit information to analyze and evaluate alternative approaches. This document, in conjunction with the Feasibility Study Document, should provide the information for management to make decisions to initiate or continue the development, procurement or modification of software or other ADP-related services. The Cost/Benefit Analysis Document may be prepared as a separate document, or details of the cost/benefit analysis may be appended to the Feasibility Study Document.

Contents

FIGURES

Cost/Benefit Analysis Document

1. GENERAL INFORMATION

1.1 **Summary.** Identify the existing system, if any, and all alternatives proposed for cost/benefit analysis. Summarize the system requirements.

1.2 **Environment.** Identify:

a. Project sponsor, developer, user and computer center or network where the software is to be implemented.
b. System input, output, processing and security/privacy requirements.
c. Interaction with other systems or organizations.

1.3 **References.** List applicable references, such as:

a. Project Request or authorization.
b. Feasibility Study Document or other previously published documents.
c. Documentation concerning related projects.
d. FIPS publications and other reference documents.
e. Federal regulations.
f. Source of information for decision criteria, operational performance requirements and estimation parameters used in the analysis.

2. MANAGEMENT SUMMARY

Present a concise overview of the cost/benefit analysis conducted. A format for a comparative cost/benefit analysis summary is illustrated in Figure 1. Detailed analysis is presented in Sections 4 through 7. If the cost/benefit analysis details are appended to the Feasibility Study Document, this section may be omitted.

2.1 **Scope.** State the purpose of the cost/benefit analysis, the alternatives for development and operations, and major elements of cost.

2.2 **Performance and Characteristics.** State the operational requirements, system life, and workload for which the cost/benefit analysis was conducted.

2.3 **Assumptions and Constraints.** State the assumptions and constraints under which the cost/benefit analysis was conducted.

2.4 **Methodology.** Summarize the procedures for conducting the cost/benefit analysis and the techniques used in estimating and computing costs. These techniques may be detailed in an appendix.

2.5 **Evaluation Criteria.** State criteria for evaluating alternatives, such as organizational objectives, operational efficiency, and reduced operating costs.

2.6 **Summary of Recommendations.** Summarize the recommendations for development and operation of the system.

3. DESCRIPTION OF ALTERNATIVES

Briefly describe the technical and operational characteristics of the alternatives considered, including the existing system. If no alternatives were considered, so state, giving reasons why alternatives were not considered. If the cost/benefit analysis details are appended to the Feasibility Study Document, this section may be omitted.

3.1 **Current System.** Describe the technical and operational characteristics of the current system.

3.2 **Proposed System.** Describe the technical and operational characteristics of the proposed system.

3.3 **Alternative System 1.** Describe the technical and operational characteristics of alternative system 1.

3.4 **Alternative System n.** Describe the technical and operational characteristics of alternative system n.

Comparative Cost/Benefit Analysis Summary

	Alternative 1	Alternative 2	Alternative n
System Life Cost			
Present Value Cost			
Residual Value			
Discounted Residual Value			
Adjusted Cost			
System Life Benefit			
Present Value Benefit			
Net Present Value			
Benefit/Cost Ratio			
Payback Period			

Comments:

FIGURE 1 - *Comparative Cost/Benefit Analysis Summary Alternatives l through n.*

EXAMPLE OF PRESENTATION OF ALTERNATIVES FOR SECTION 3

The content of this section should be organized to provide a meaningful and logical presentation of the alternatives analyzed.

3.1 Current System (Manual Forms Method)

- 3.1.1 Technical Characteristics
- 3.1.2 Operational Characteristics

3.2 Proposed System (OCR Scanner Method: Target Price Based on Actual Production)

- 3.2.1 Technical Characteristics
- 3.2.2 Operational Characteristics

3.3 Alternative System 1 (OCR Scanner Method: Target Price Based on 3-year Average)

- 3.3.1 Technical Characteristics
- 3.3.2 Operational Characteristics

3.4 Alternative System 2 (Terminal Entry Method: Target Price Based on Actual Production)

- 3.4.1 Technical Characteristics
- 3.4.2 Operational Characteristics

3.5 Alternative System 3 (Terminal Entry Method: Target Price Based on 3-year Average)

- 3.5.1 Technical Characteristics
- 3.5.2 Operational Characteristics

4. COSTS

Describe the development and operation costs of each alternative. If there is an existing system, include costs associated with its continuation. Where applicable, compare the costs of a system developed, operated or maintained in-house with the costs of those developed, operated or maintained by contractors. Formats for a cost analysis and a cost analysis worksheet are illustrated in Figures 2 and 3.

4.1 **Non-Recurring Costs.** Present non-recurring costs of each alternative over the system life.

4.1.1 Capital Investment Costs. Include costs for acquiring, developing and installing:

a. Site and Facility.
b. ADP equipment.
c. Data communication equipment.
d. Environmental conditioning equipment.
e. Security and privacy equipment.
f. ADP operations, multipurpose and applications software.
g. Data base.

4.1.2 Other Non-Recurring Costs. Include costs for:

a. Studies (requirement and design studies).
b. Procurement planning and benchmarking.
c. Data base preparation.
d. ADP software conversion.
e. Reviews and other technical and management overhead.
f. Training, travel and other personnel-related costs of development and installation (except salaries and fringe benefits).
g. Involuntary retirement, severance and relocation costs for personnel.
h. Contractual, interagency or other direct support services.
i. Incremental or additional overhead costs.

4.2 **Recurring Costs.** Present the monthly and/or quarterly recurring costs of operating and maintaining the alternative over the system life, including:

a. Equipment lease, rentals and in-house maintenance.
b. Software lease, rental and in-house maintenance.
c. Data communications lease, rental and in-house maintenance.
d. Personnel salaries and fringe benefits.
e. Direct support services (intra-agency services).
f. Travel and training.
g. Space occupancy.
h. Supplies and utilities.
i. Security and privacy.
j. Contractual and interagency services, such as: ADP services, data communications, software, technical and other support.
k. Overhead. Include overhead expenses that represent additional or incremental expenses attributable to the alternative.

	YEAR						
	0	1	2	3	4	5	TOTAL
Non-Recurring Costs:							
Capital							
Site and Facility							
Equipment							
ADPE							
Telecommunication							
Other							
Software							
Other							
Studies							
Procurement							
Conversion & Parallel Operations							
Training & Travel							
.							
.							
.							
SUBTOTAL							
Recurring Costs:							
Equipment							
Software							
Data Communications							
Personnel							
Support Services							
Travel & Training							
Space Occupancy							
Supplies & Utilities							
Security & Privacy							
Services							
Overhead							
.							
.							
.							
SUBTOTAL							
TOTAL COSTS							
SYSTEM LIFE COST							
PRESENT VALUE COST							

FIGURE 2. *Cost analysis*
Alternative x

8

YEAR N

	J	F	M	A	M	J	J	A	S	O	N	D	ANNUAL TOTALS
Non-Recurring Costs:[1]													
.													
.													
.													
SUBTOTAL													
Recurring Costs:													
.													
.													
.													
SUBTOTAL													
TOTAL													
PRESENT VALUE FACTOR[2]													
PRESENT VALUE COST													

[1]If timing is known, insert in appropriate month. Otherwise, insert in last month of FY.
[2]Ref. OMB Cir. A-94.

FIGURE 3. *Cost analysis worksheet Alternative x, Year N*

5. BENEFITS

Describe non-recurring and recurring benefits which could be attained through the development of each proposed alternative. State benefits in quantifiable or non-quantifiable terms that relate to organizational objectives, goals, missions, functions, and operating environment. Figures 4 and 5 illustrate a benefit analysis and worksheet for quantifiable dollar benefits.

5.1 **Non-Recurring Benefits.** Describe benefits that can be assigned dollar values. Describe benefits in terms of data processing, user, administrative and support categories.

5.1.1 Cost Reduction. Include cost reductions resulting from improved system operations, such as: reduction of resource requirements; improved operating efficiency; improved data entry, storage, and retrieval techniques; system performance monitoring; software conversion and optimization; data compression techniques; and centralized/decentralized processing.

5.1.2 Value Enhancement. Include benefits that enhance the value of an application system, such as: improved resources utilization; improved administrative and operational effectiveness; and reduced error rates.

5.1.3 Other. For example, offsetting receipts. Include the value of excess equipment.

5.2 **Recurring Benefits.** Present the monthly and/or quarterly recurring benefits of operating and maintaining the alternative over the system life, including:

a. Equipment lease, rentals and in-house maintenance.
b. Software lease, rental and in-house maintenance.
c. Data communications lease, rental and in-house maintenance.
d. Personnel salaries and fringe benefits.
e. Direct support services (intra-agency services).
f. Travel and training.
g. Space occupancy.
h. Supplies and utilities.
i. Security and privacy.
j. Contractual and interagency services, such as: ADP services, data communications, software, technical and other support.
k. Overhead. Include overhead benefits that represent additional or incremental benefits attributable to the alternative.
l. Cost avoidance. Describe avoidance of future costs that would be incurred if the best alternative were chosen from a set of alternatives, compared to maintaining current operations. Describe improvements in operational flexibility, information handling and response to anticipated requirements, as related to cost avoidance.

5.3 **Non-Quantifiable Benefits.** Describe benefits which cannot be quantified in terms of direct dollar values, such as: improved service; reduced risk of incorrect processing; improved information handling; and enhanced organizational image. Intangible benefits can sometimes be assigned values in terms of estimates and tradeoffs. When applicable, include:

a. Boundary estimates, i.e., analysis of "best case" and "worst case" estimates to justify the proposed alternative.

b. Tradeoffs with tangible benefits, i.e., cases where an intangible benefit is gained at the expense of reduced potential tangible benefits.

	YEAR						
	0	1	2	3	4	5	TOTAL
Non-Recurring Benefits/ Offsets:							
Cost Reduction							
Value Enhancement							
.							
.							
.							
Other (Including Cost Avoidance)							
.							
.							
.							
SUBTOTAL							
Recurrring Benefits:							
Cost Reduction							
Equipment							
Software							
Data Communications							
Personnel							
Support Services							
Travel & Training							
Space Occupancy							
Supplies & Utilities							
Security & Privacy							
Services							
Overhead							
.							
.							
.							
Other (Including Cost Avoidance)							
.							
.							
.							
SUBTOTAL							
TOTAL TANGIBLE BENEFITS							
SYSTEM LIFE BENEFITS							
PRESENT VALUE BENEFIT							

FIGURE 4. *Benefit analysis Alternative x*

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YEAR N

	J	F	M	A	M	J	J	A	S	O	N	D	ANNUAL TOTALS
Non-Recurring Benefits:[1]													
.													
.													
.													
SUBTOTAL													
Recurring Benefits:													
.													
.													
.													
SUBTOTAL													
TOTAL													
PRESENT VALUE FACTOR[2]													
PRESENT VALUE BENEFIT													

[1]If timing is known, insert value of benefit in appropriate month. Otherwise, insert in last month of FY.
[2]Ref. OMB Circular A-94.

FIGURE 5. *Benefit analysis worksheet*
Alternative x, Year N

6. COMPARATIVE COST/BENEFIT SUMMARY

Present the elements below in a manner to facilitate comparison. Provide supporting documentation as required for validation and management review. A format for a cost/benefit analysis presentation is illustrated in Figure 6.

6.1 **Cost of Each Alternative Over the System Life.** For each alternative, present costs in the period (year, quarter, month) in which they will be incurred.

6.1.1 Non-Recurring Costs. Include non-recurring costs (capital and other), such as studies, personnel training, site/facility modifiications, supplies and security procedures. Total the non-recurring costs.

6.1.2 Recurring Costs. Include recurring costs such as rental, maintenance, utilities, telecommunications and personnel. Total the recurring costs.

6.1.3 Total Cost. Total the non-recurring and recurring cost subtotals for each year of the system life.

6.1.4 System Life Costs. Calculate the total cost over system life by summing the total costs over the period of system life.

6.1.5 Present Value Cost. Calculate present value cost over the entire system life using authorized present value factors. Calculations are to be based on discounting methods as set forth in OMB Circular A-94.

6.1.6 Residual Value Estimate. Calculate the remaining economic value of ownership of all ADP resources as of the last month of the system life, as established by Federal guidelines. Make the present value calculation to get the discounted residual value.

6.1.7 Adjusted Cost. Calculate the adjusted cost by subtracting the discounted residual value from the total present value cost.

6.2 **Benefits.** Identify the period of benefits. Enter the quantifiable dollar benefits for the period in which they are accrued, and make present value calculations.

6.3 **Net Present Value.** Calculate the net present value by subtracting the adjusted cost from the total present value of benefits.

6.4 **Benefit/Cost Ratio.** Calculate the benefit/cost ratio by dividing the total present value of benefits by the adjusted cost.

6.5 **Payback Period.** Calculate the year or month in which the sum of benefits first exceeds the sum of the costs expressed in current dollars.

	YEAR						
	0	1	2	3	4	5	TOTAL
Total Costs							
System Life Cost							
Present Value Cost							
Residual Value[1]							
Present Value Factor							
Discounted Residual Value							
Adjusted Cost[2]							
Total Tangible Benefits							
System Life Benefit							
Present Value Benefits							
Net Present Value							
Benefit/Cost Ratio							
Cumulative Benefits							
Cumulative Costs							
Payback (difference)							
Payback Period[3]							

[1]Remaining economic value of ownership of ADP resources in the last month of system life.
[2]Difference between present value cost and discounted residual value in the last month of system life.
[3]Point at which total benefits exceed total costs, excluding present values.

FIGURE 6. *Cost/Benefit analysis over system life*
Alternative x

7. SENSITIVITY ANALYSIS

Sensitivity analysis is a tool used for assessing the extent to which costs and benefits are sensitive to changes in key factors, e.g., length of system life; volume, mix or pattern of workload; requirements; and configuration of equipment or software.

Sensitivity analyses, conducted on different configurations with each alternative proposal, can provide a range of costs and benefits which are likely to be a better guide than a single estimate.

7.1 Methodology. Describe the approach, assumptions and the model used for conducting the sensitivity analysis. Describe, including examples where appropriate, the analysis of factors determined to warrant sensitivity analysis, for example:

7.1.1 Length of System Life. Consider the effects of a shorter or longer system life.

7.1.2 Volume, Mix or Pattern of Workload. Consider the effects of variation in the estimated volume, mix or pattern of workload.

7.1.3 Requirements. Consider the effects of potential changes in requirements resulting from either legislative mandate or changes in functional or organizational structure.

7.1.4 Configuration of Equipment or Software. Consider the effects of changes in configuration of hardware, software, data communications and other facilities.

7.1.5 Assumptions. Consider the effects of alternative assumptions concerning objective, requirements and operations. Consider the effects of alternative assumptions concerning: inflation rate; residual value of equipment, facilities and software; and length of the development project, e.g., effects of delay in completion.

7.2 **Sources of Data.** Identify the sources of data for the sensitivity analysis. Identify the method used for data collection and the quality of data.

7.3 **Other Factors.** Identify other factors which may qualitatively or quantitatively affect the assessment of costs and benefits for one or more of the alternatives, but which are not amenable to sensitivity analysis of their implications.

7.4 **Results.** Identify and display in convenient fashion the results of the sensitivity analysis for all alternatives and factors. For example, a display with accompanying narrative might appear as follows:

	Factor 1 Useful life Range Tested: 3, 5, & 7 yrs	Factor 2 Volume of Workload Range Tested: (range)	... Factor m (name) Range Tested: (range)
Alternative 1 (name)			
Alternative 2 (name)			
.			
.			
.			
Alternative n (name)			

7.5 **Evaluation and Conclusion.** Present the key points of the sensitivity analysis, evaluate its validity and implications, and present the conclusion.

EXAMPLES OF CONTENT ORGANIZATION FOR COST/BENEFIT ANALYSIS DOCUMENT

Contents of this document type may follow one of several organizations depending on its purpose.

Example A: When this document is used to document a cost/benefit analysis for a single proposed approach, the outline would be:

Proposed Approach
Impacts
Costs
Benefits
Summary
Sensitivity Considerations

Example B: When this document is used to document a cost/benefit analysis for alternative approaches, with options within each approach the outline would be:

Alternative 1 (Identify)

Option A Description
Impacts
Costs
Benefits
Summary
Sensitivity Considerations

Option B

Alternative 2 (Identify)

Option A
Option B

.
.
.

Alternative n (Identify)

Option A
Option B

Example C: When each alternative with options is documented in separate sections to delineate the analysis more clearly, the outline of each section would be:

Alternative 1 (Identify)

Description (Option A)
- Impacts
- Costs
- Benefits
- Summary
- Sensitivity Considerations

Description (Option B)
- Impacts
- Costs
- Benefits
- Summary
- Sensitivity Considerations

Example D: When a modification to an analysis already conducted is prepared, retain the same organization and annotate each change included. Alternatively, describe only the additional items, numbering paragraphs corresponding to that of the original document. Modify the line items for each alternative to correspond to the changes.

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