

Feasibility Study Document

Outline

Terminology

Matters of Style

Feasibility Study Document

Checklists

Checklists - Content

Checklists - Process

Terminology

- Checklist ≠ Outline
 - Outline specifies organization
outline in *Running the River*
 - Checklist recommends content
checklist in today's lecture

- “Client” deliberately ambiguous **for now**
 - ◇ who requested the project
 - ◇ who will defined the project
 - ◇ who will use the project
 - ◇ organization involving all of the above

Also recall:

- Feasibility analysis ≠ Feasibility Study
- Analysis phase includes feasibility and requirements

Three Levels of Style

Organization

the overall structure and *flow*

- ◇ cluster relevant ideas
- ◇ make sure concepts defined before used
 - may require “multi-pass” discussion
- ★ outline

Paragraph

structure of individual definitions & explanations

- ◇ paragraph focuses on one topic
 - theme sentence help reader *and writer*

Sentence

grammar & style

Starting the Document

Executive Summary

is **not** an introduction!

It's goal is to summarize all important points:

- ◇ premisses
- ◇ conclusions
- ◇ action items

Introduction

has goals:

- ◇ introduce topic
- ◇ introduce terminology & concepts
- ◇ introduce the document

Common Writing Problems

Paragraphs

- lack of focus

Sentences

- pronoun referent confusion
- participial clause-trophobia
- word bloat

The first edition of Strunk's (and later Strunk and White's) famous *Elements of Style* is available at <http://www.bartleby/141/>

Writing Technical Documents

- Be brief

- Be consistent
 - ◇ terminology
 - ◇ notation

- Use special presentation forms
information has structure, present it with structure
 - ◇ outlines
 - ◇ bulleted lists
 - ◇ tables
 - ◇ figures

Writing Technical Documents (continued)

- Make team-written documents uniform
 - ◇ define format first
 - ◇ use style sheet or macros
 - ◇ technology alone will not suffice

- Facilitate navigation
 - ◇ table of contents
 - ◇ index
 - ◇ cross references via pointers
 - ◇ cross references via tables

Suggested Outline for FS

- i. Executive Summary
1. Introduction
2. Client Environment
 - 2.1. Identity
 - 2.2. Organizational Structure
 - 2.3. Personnel
 - 2.4. Commitment
3. System Characteristics
 - 3.1. Goals and Objectives
 - 3.2. Classes of Stakeholders/Users
 - 3.3. Scope -- Other Information Systems
 - 3.4. Current System
 - 3.5. System Needs
4. Technical Environment
 - 4.1. Hardware Platform
 - 4.2. Networking
 - 4.3. Software Platform
 - 4.4. Resources during Development
 - 4.5. Client's Experience with Computers
 - 4.6. Project Knowledge and Skills
5. Evaluation of Solutions
 - 5.1. Possible Solutions
 - 5.2. Benefit-cost Analysis
 - 5.3. Best Alternative
 - 5.4. Implications of Recommended Solution
 - 5.5. Other Factors
 - 5.6. Conclusions

Checklists

The following checklists

- span feasibility and requirements stages
- address matters beyond the course project

But checklists are always advisory, so marking a list item may mean

- ✓ it's been done
- ✗ it's been considered but rejected

Client Environment - Questions

1. Are all client participants and organizational relationships identified?
2. Who are the key decision makers in the client environment?
3. Is there clearly defined top-level support for the project? If so who constitutes this support? How much power do they wield?
4. Are clients identified as to who are supporters of, resistant to, and indifferent to the system?
5. How much time and effort are the clients willing to put into the initial analysis work?
6. Do clients clearly understand the current system and its operation?
7. Are legitimate client complaints about the current system documented? Is the impact of the complaints fully documented?
8. What specific benefits do clients expect from the resulting system?
9. What is the client's organizational structure? How many client locations are there?
10. How many people will use the system at various levels? What is their level of computer system experience?

Client Environment - Deliverables

1. An organizational chart of all participating client areas showing their hierarchical relationship
2. A narrative on the political relationships of the major client participants
3. A preliminary statement of client expectations
4. Identification of any other systems or applications that interrelate with the proposed system
5. A description of the client's background and prior experience
6. A brief history of previous data systems and procedures used in the application area
7. Documentation of client problems with the existing system and the impact of these problems
8. A work plan of expected client participation in the analysis
9. A narrative on the system support needs and expectations of the major client participants

Problem Statement - Questions

1. Are the reasons for the analysis project clearly defined?
2. Are the project limits defined (e.g., resources, time, and funds)?
3. Is the development of the system actually planned or is it just under consideration?
4. Who are the owners, managers, and users of the proposed system?
5. Are objectives set for the new or modified system? If so, what are they and who set them?
6. What priority has the organization set for the project?
7. What previous systems analysis work has been performed in this application area?
8. What is the status of current systems serving the application?
9. What special legal, security, or audit considerations exist, if any?

Problem Statement - Deliverables

1. A narrative definition of the project boundaries
2. A tentative work plan for the analysis work
3. A client contact list
4. A tentative resource staffing list
5. A priority impact statement concerning the relative importance of the system

System Objectives - Questions

1. Are system objectives formally defined? Or are they loosely stated and subject to interpretation and/or later definition?
2. Will the new system have a major impact on the basic operations of the organization?
3. If the new system will replace an existing one, are changes in functionality required?
4. Is the new system expected to cause relocation or removal of any work functions? If so how sensitive is the issue? Who will help to combat any resistance?
5. Is an interim system required to satisfy immediate goals or to eliminate intolerable problems with the existing system?
6. Can the deliverables be decomposed into a sequence of subprojects?
7. What resources can be allocated for this project?
8. How close to the state of the art is the new system expected to be?
9. How much time can clients allocate for training and start-up? What are the schedule constraints?

System Objectives - Deliverables

1. A comprehensive statement of system objectives
2. A statement of general scope and level of project effort required, including tentative cost and resource estimates
3. A statement concerning the current system and procedures considered for change, elimination, and/or replacement
4. A general statement covering the expected project phasing and the overall team approach to the project
5. A tentative statement covering the levels and impact of anticipated organizational changes that will result from the system
6. A commentary on the roles and responsibilities that each participating client department and major client group has in the desired system

Current System - Questions

1. What are the problems with the current system as evaluated by the clients and the technical team? Do these evaluations agree?
2. How do other organizations perform similar functions? What is the current state of the art in the application area?
3. What other methods and procedures have been tried and/or used to service the application?
4. What is the detailed chronology of the current system's life?
5. What is the organization's history during the current system's life?
6. What development, maintenance, and operational costs are associated with the current system (including client efforts)?
7. Who are the owners, managers, and implementers of the current system?
8. Have there been any major organizational failures that resulted from the current system?

Current System - Deliverables

1. A list of existing application systems
2. A comprehensive narrative on the current system and its operation, history, and clients
3. A ranked list of the current system's major faults and problems
4. A general statement on how the new system is related to those in other organizations or the state of the art
5. A complete collection of the documents, procedures and other available details concerning the operation/content of the current system

Information Requirements - Questions

1. Are the current data bases, files, forms, procedures, *etc.* thoroughly documented (on paper or on line)?
2. Are the current data bases *etc.* logical, consistent, and utilized?
3. How clean are the current data bases?
4. Do clients have a list of new information they would like to see in the new system? Is it feasible to add this information?
5. How much redundancy exists between the current system's data base and that of other applications in the organization? Are any of the other applications a more logical repository for any elements of the data base?
6. Is there enough flexibility in the current implementation to meet the new system needs?
7. How difficult will it be to convert the current data base to a new one? How much error testing will be necessary to achieve a clean conversion?

Information Requirements - Questions (continued)

8. How much maintenance is normally done on the existing data base?
9. How much of the current data base is actively used? By whom?
10. What significant faults or failures were encountered with the data files? How were they dealt with?
11. How many times and in what ways has the data base been modified?
12. Can or should data from the current data base be converted?

Information Requirements - Deliverables

1. A comprehensive list of current data bases, files, and supporting implementations
2. An evaluation of current data base content with emphasis on: redundancy, missing data or relationships, cleanliness, conversion, and future use
3. A list of expected changes, additions, deletions, and other modifications to the information content that are anticipated for the new system
4. A summary of the major uses of the current and proposed databases
5. A list of faults and failures of the existing data files or databases

Client Interviews - Questions

1. Are all clients identified?
2. Is there a formal interview plan for each client level covered?
3. Are lists of questions and objectives developed for the interviews at each client level?
4. Is top management supporting and publicizing the interviews, the interview team, and the overall expectations? Is top management making a strong pitch for interviewee cooperation?
5. Are all interviews scheduled during acceptable time periods?
6. Are the interviewers trained in effective interview techniques?
7. Are all scheduled interviews completed? Have canceled, interrupted, or forgotten interviews been rescheduled and conducted?
8. Have the interviewers taken adequate notes and written evaluations of each interview?

Client Interviews - Questions (continued)

9. Have the interviewers compared notes, impressions, and other observations? Are these details documented?
10. Have all relevant clients been interviewed?
11. Are interviewees given adequate feedback, such as summary reports, notes, and soon?
12. Have follow-up interviews been conducted when special problems or conditions are uncovered during initial interviews?
13. Has management been kept informed about the interview process any problems uncovered, and uncooperative clients?

Client Interviews - Deliverables

1. A formal interview plan
2. Documentation of interview results
3. A report summarizing the interviews that includes both consensus answers and significant variances
4. An internal analysis of client attitudes and positions vis-a-vis the system
5. A management report covering interview findings and cooperation of the participants
6. Results of test interviews along, with changes in questions, emphasis, and interviewing guidelines
7. Explanation of any incomplete interviews

Research on Other Systems - Questions

1. What other organizations can be surveyed regarding their approach to the subject application?
2. What (if any) proprietary packages are available that might suit the application area?
3. What (if any) trade and industry associations study or catalog the systems work of others in the same field?
4. What (if any) formal literature is available on the subject application area?
5. How much time and effort should be spent in reviewing other systems?
6. Were the reviews of other systems productive? Should more time be spent on this activity?
7. Are field interviewers of other clients and organizations necessary?

Research on Other Systems - Deliverables

1. A list of organizations and sources to review for base knowledge on alternative approaches to the application
2. A narrative report detailing the ways other organizations are solving the application
3. A technical evaluation covering the current state of the art application area
4. A summary report on contacts to other clients and organizations
5. A follow-up plan for reviewing or tracking major developments in the industry

Alternative Solutions - Questions

1. How many application alternatives should be considered?
2. How much time and effort should be spent in evaluation of alternatives?
3. How detailed and complete should the considerations of each alternative be?
4. How will the alternatives be developed and documented?
5. Are formal requirements and evaluation criteria established for the alternatives?
6. Who will evaluate the alternatives? Will the clients review the alternatives?
7. Are all logical alternatives being considered?
8. Are outside expert opinions being sought on the alternatives?
9. Are the alternatives considered consistent with those evaluated by other organizations?

Alternative Solutions - Deliverables

1. Alternative proposal definitions
2. Positive and negative factors of each alternative
3. Evaluation reports from each group that studies the alternatives
4. Formal client presentation of the alternatives
5. Preliminary cost predictions for each alternative
6. A technology impact assessment for each alternative
7. A client impact assessment for each alternative