11

Feasibility Analysis and the System Proposal

Overview

Chapter 11 teaches students how to conduct a feasibility analysis of alternative systems solutions. The chapter introduces tools for documenting the characteristics and feasibility analysis of candidates. Several feasibility analysis techniques are presented in the chapter. Students also learn how to select and present a system solution for recommendation. Finally, the students learn how to develop and present a formal system proposal.

Chapter to Course Sequencing

Students are encouraged to read Chapter 3 to provide perspective for this chapter's content. It would also be recommended that the students first read Chapter 5 to obtain a better appreciation for some of the analysis phases within which a feasibility analysis and system proposal is completed. If adopters want the decision analysis to be built upon logical system modeling, then all system analysis modeling chapters (Chapter 8,9, and 10) should be covered prior to this chapter.
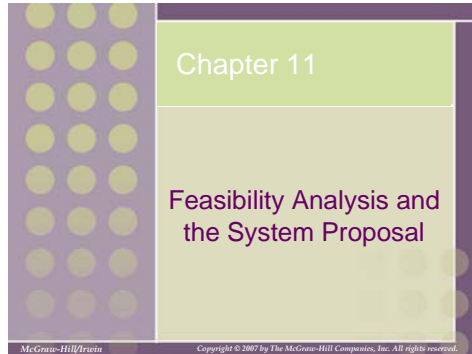
What's Different Here and Why?

The following changes have been made to this chapter in the seventh edition:

1. The biggest change is that this chapter as moved from chapter 10 to chapter 11. This places all three analysis methods chapters (8, 9, and 10) together prior to the chapter on the system proposal.

2. As with all chapters, we have streamlined the SoundStage episode into a quick narrative introduction to the concepts presented the chapter.

3. We expanded the feasibility tests to include cultural (or political) feasibility and legal feasibility. These two other kinds of feasibility have always existed, but in today's muti-national, corporate merger environment they are more easily recognized.

LESSON PLANNING NOTES FOR SLIDES

The following instructor notes, keyed to slide images from the PowerPoint repository, are intended to help instructors integrate the slides into their individual lesson plans for this chapter.

Slide 1

Chapter 11

Feasibility Analysis and the System Proposal

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slide appearance after initial mouse click in slide show mode

This repository of slides is intended to support the named chapter. The slide repository should be used as follows:
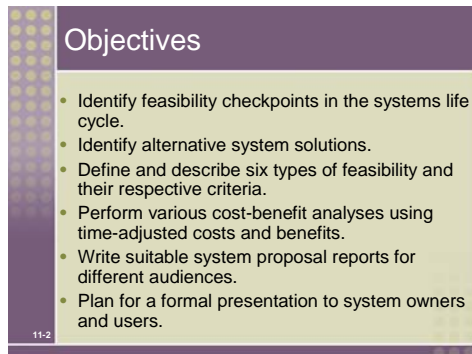Copy the file to a unique name for your course and unit.
Edit the file by deleting those slides you don't want to cover, editing other slides as appropriate to your course, and adding slides as desired.
Print the slides to produce transparency masters or print directly to film or present the slides using a computer image projector.

Each slide includes instructor notes. To view those notes in PowerPoint, click-left on the View Menu; then click left on Notes View sub-menu. You may need to scroll down to see the instructor notes.
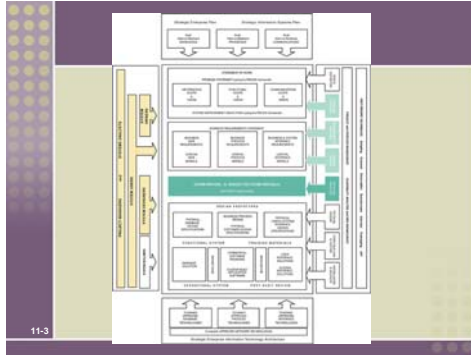The instructor notes are also available in hard-copy as the Instructor Guide to Accompany Systems Analysis and Design Methods, 6/ed.

Slide 2

Objectives

- Identify feasibility checkpoints in the systems life cycle.
- Identify alternative system solutions.
- Define and describe six types of feasibility and their respective criteria.
- Perform various cost-benefit analyses using time-adjusted costs and benefits.
- Write suitable system proposal reports for different audiences.
- Plan for a formal presentation to system owners and users.

11-2

No additional notes.

Slide 3

Teaching Notes
This slide shows the how this chapter's content fits with the building blocks framework used throughout the textbook. We are in the Decision Analysis phase when all the logical DATA, PROCESS, and COMMUNICATION analysis is evaluated to produce a system proposal. For the first time system designers are involved in the process as well as systems analysts, owners, and users.
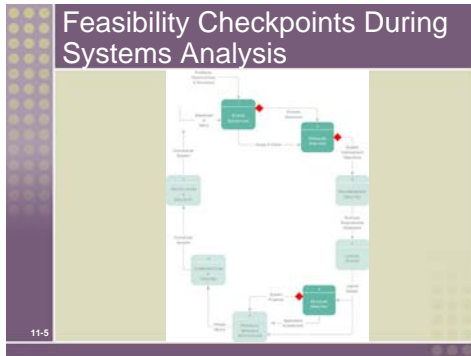
Slide 4

Feasibility Analysis

Feasibility – the measure of how beneficial or practical an information system will be to an organization.

Feasibility analysis – the process by which feasibility is measured.

Creeping Commitment – an approach to feasibility that proposes that feasibility should be measured throughout the life cycle.

No additional notes.

Slide 5

Feasibility Checkpoints During Systems Analysis

No additional notes.

Slide 6

Six Tests For Feasibility

Operational feasibility – a measure of how well a solution meets the system requirements.

Cultural (or political) feasibility - a measure of how well a solution will be accepted in an organizational climate.

Technical feasibility – a measure of the practicality of a technical solution and the availability of technical resources and expertise.

Schedule feasibility – a measure of how reasonable the project timetable is.

Economic feasibility - a measure of the cost-effectiveness of a project or solution.

Legal feasibility - a measure of how well a solution can be implemented within existing legal/contractual obligations.

11-6

Conversion Notes
Cultural (or political) feasibility and legal feasibility are new to the seventh edition.

Teaching Notes
It is useful to take an example information system and explain how it might fail each test of feasibility. For example, a payroll system might fail legal feasibility for a multi-national corporation faced with national laws regarding the exportation of employee data.

Emphasize that all candidates should be analyzed according to all of the above criteria. Students should understand that rarely will any one candidate solution be the most feasible candidate according to all criteria.

Slide 7

Operational Feasibility

- How well proposed system solves the problems and takes advantage of opportunities identified during the scope definition and problem analysis phases
- How well proposed system satisfies system requirements identified in the requirements analysis phase
- Is the problem still worth solving?

11-7

Conversion Notes
This is a new slide in the seventh edition.

Slide 8

Cultural (or political) feasibility

- Does management support the system?
- How do end users feel about their role in the system?
- What end users may resist or not use the system? How can this be overcome?
- How will the working environment change? Can users and management adapt to the change?

11-8

Conversion Notes
This is a new slide in the seventh edition.

Slide 9

Technical feasibility

- Is the proposed technology or solution practical?
- Do we currently possess the necessary technology?
- Do we possess the necessary technical expertise?

11-9

Conversion Notes
This is a new slide in the seventh edition.

Slide 10

Schedule feasibility

- Are specified deadlines mandatory or desirable?
- Are mandatory deadlines realistic for proposed solution?

11-10

Conversion Notes
This is a new slide in the seventh edition.

Slide 11

Economic feasibility

- During Scope Definition
  - Do the problems or opportunities warrant the cost of a detailed study and analysis of the current system?
- During Problem Analysis
  - After a detailed study of the current system
  - Better estimates of development costs and benefits
- During Decision Analysis
  - Requirements now defined
  - Development costs can be better estimated

11-11

Conversion Notes
This is a new slide in the seventh edition.

Slide 12

Legal feasibility

- Copyrights
- Union contracts
- Legal requirements for financial reporting
- Antitrust laws
- National data and work laws

11-12

Conversion Notes
This is a new slide in the seventh edition.

Slide 13

Information System Costs

- Development costs - one time costs that will not recur after the project has been completed.
  - Personnel
  - Computer usage
  - Training
  - Supply, duplication, and equipment
  - Computer equipment and software
- Operating costs - costs that recur throughout the lifetime of the system.
  - Fixed costs — occur at regular intervals but at relatively fixed rates.
  - Variable costs — occur in proportion to usage.

11-13

Teaching Notes
Our experience suggests that students will need examples of each. The chapter includes several examples. Try providing the students with a list of items and ask them to classify them as a cost or benefit and to distinguish between the type of cost or benefit.
While students tend to understand intangible benefits, they may have some difficulty in quantifying them. An exercise or two will help to reinforce the fact that intangible benefits can indeed be quantified.

Slide 14

Information System Benefits

- Tangible benefits are those that can be easily quantified.
- Intangible benefits are those benefits believed to be difficult or impossible to quantify.
  - Fewer processing errors
  - Increased throughput
  - Decreased response time
  - Elimination of job steps
  - Increased sales
  - Reduced credit losses
  - Reduced expenses

11-14

Teaching Notes
Our experience suggests that students will need examples of each. The chapter includes several examples. Try providing the students with a list of items and ask them to classify them as a cost or benefit and to distinguish between the type of cost or benefit.
While students tend to understand intangible benefits, they may have some difficulty in quantifying them. An exercise or two will help to reinforce the fact that intangible benefits can indeed be quantified.

Slide 15

Costs for a Proposed Solution

Estimated Costs for Client-Server System Alternative

DEVELOPMENT COSTS

(detailed cost table)

Total Development Costs:

PROJECTED ANNUAL OPERATING COSTS

(detailed cost table)

Total Projected Annual Costs: $13,870

11-15

Teaching Notes
- **We often walk through this line-by-line. Though this is not representative of every information system project, it does illustrate typical costs. For instance, note that programmer/analysts are needed after the system goes into operation. Users always want some revisions.**

Slide 16

Three Popular Techniques to Assess Economic Feasibility

- Payback Analysis
- Return On Investment
- Net Present Value

11-16

Teaching Notes
While the textbook covers only the above popular techniques, it is important to stress that there may be others that organizations choose to use in assessing the economic feasibility of an investment.
Stress the importance of determining the investment decision-making process or techniques used by the organization. It should also be pointed out that sometimes the techniques vary according to the individuals involved.

Slide 17

Time Value of Money

- Used with all three cost-effectiveness techniques.
- Concept that recognizes that a dollar today is worth more than a dollar one year from now.
  - Invest $100 at 2% for one year yields $102.
  - So $100 today and $102 one year from today represent the same value.
  - Given $20,000 benefit from information system two years from now and 10% return from other investments, means that benefit is worth $16,528 today.

11-17

Teaching Notes
It is well worth going over this concept carefully as it is the basis for all calculations on succeeding slides.

Slide 18

> ## Payback Analysis
>
> **Payback analysis** – a technique for determining if and when an investment will pay for itself.
>
> **Payback period** – the period of time that will lapse before accrued benefits overtake accrued and continuing costs.
>
> 11-18

No additional notes.

Slide 19

> ## Present Value Formula
>
> **Present value** – the current value of a dollar at any time in the future.
>
> $$PV_n = 1/(1 + i)^n$$
>
> Where **n** is the number of years and **i** is discount rate
>
> **Discount rate** – a percentage similar to interest rates that you earn on your savings.
> - In most cases the discount rate for a business is the **opportunity cost** of being able to invest money in other projects or investments
>
> 11-19

Teaching Notes
While you may want your students to know this formula, be sure to emphasize that PV tables are available and spreadsheets generally include a PV function.
Point out that the lifetime of an investment may be dictated by an organization and its investment decision makers.
Point out that the interest rate is often dictated. Many companies choose to use the current prime rate.

Slide 20

No additional notes.

Slide 21

No additional notes.

Slide 22

No additional notes.

Slide 23

Teaching Notes
This is a greatly simplified version of the Candidate Systems Matrix shown on the next slides. The actual matrix can vary, but in any methodology the candidates should be evaluated in these general areas.

Slide 24

No additional notes.

Slide 25

No additional notes.

Slide 26

No additional notes.

Slide 27

Feasibility Analysis Matrix

Feasibility Analysis Matrix – a tool used to rank candidate systems.

	Weighting	Candidate 1	Candidate 2	Candidate 3
Description				
Operational Feasibility				
Cultural Feasibility				
Technical Feasibility				
Schedule Feasibility				
Economic Feasibility				
Legal Feasibility				
Ranking				

11-27

Teaching Notes
The weightings serve to make some kinds of feasibility more important in the rankings than others kinds.
The weightings should add up to 100%.

Slide 28

Sample Feasibility Analysis Matrix

	Wt	Candidate 1	Candidate 2	Candidate 3
Description		Purchase commercial off-the-shelf package for member services.	Write new application in-house using new company standard VB.NET and SQL Server database	Rewrite current in-house application using Powerbuilder.
Operational feasibility	15%	Supports only Member Services requirements. Current business process would have to be modified to take advantage of software functionality. Also there is concern about security in the system. Score: 60	Fully supports user-required functionality. Score: 100	Fully supports user-required functionality. Score: 100
Cultural Feasibility	15%	Possible user resistance to non-standard user interface of proposed purchased package. Score: 70	No foreseeable problems. Score: 100	No foreseeable problems. Score: 100

11-28

No additional notes.

Slide 29

Sample Feasibility Analysis Matrix (cont.)

	Wt	Candidate 1	Candidate 2	Candidate 3
Technical feasibility	20%	Current production release of Platinum Plus package is version 1.0 and has been on the market for only 6 weeks. Maturity of product is a risk, and company charges and additional monthly fee for technical support. Required to hire or train Java J2EE expertise to perform modifications for integration requirements. Score: 50	Solution requires writing application in VB .NET. Although current technical staff has only Powerbuilder experience, it should be relatively easy to find programmers with VB .NET experience. Score: 95	Although current technical staff is comfortable with Powerbuilder, management is concerned about acquisition of Powerbuilder by Sybase Inc. MS SQL Server is the current company standard for database, which competes with Sybase DBMS. We have no guarantee that future versions of Powerbuilder will "play well" with our current version of SQL Server. Score: 60

11-29

No additional notes.

Slide 30

Sample Feasibility Analysis Matrix (cont.)

	Wt	Candidate 1	Candidate 2	Candidate 3
Economic feasibility	30%			
Cost to develop:		Approx. $350.000	Approx. $418.000	Approx. $400.000
Payback (discounted):		Approx. 4.5 years	Approx. 3.5 years	Approx. 3.3 years
Net present value:		Approx. $210,000	Approx. $307,000	Approx. $325,000
Detailed calculations:		See Attachment A	See Attachment A	See Attachment A
		Score: 60	Score: 85	Score: 90

11-30

No additional notes.

Slide 31

Sample Feasibility Analysis Matrix (cont.)

	Wt	Candidate 1	Candidate 2	Candidate 3
Schedule feasibility	10%	Less than 3 months	9-12 months	9 months
		Score: 95	Score: 80	Score: 85
Legal feasibility	10%	No foreseeable problems	No foreseeable problems	No foreseeable problems
		Score: 100	Score: 100	Score: 100
Weighted score	100%	67	92.5	87.5

11-31

No additional notes.

Slide 32

The System Proposal

System proposal – a report or presentation of a recommended solution.
- Usually formal written report or oral presentation
- Intended for system owners and users

11-32

No additional notes.

Slide 33

Length of the Written Report

- To Executive-level managers - one or two pages
- To Middle-level managers - three to five pages
- To Supervisory-level managers - less than 10 pages
- To clerk-level personnel - less than 50 pages.

11-33

Conversion Notes
This is a new slide for the seventh edition

Slide 34

Formats for Written Reports

- **factual format** - traditional and best suited to readers interested in facts and details as well as conclusions.
- **administrative format** - modern, result-oriented format preferred by managers and executives.

Factual Format	Administrative Format
I. Introduction	I. Introduction
II. Methods and procedures	II. Conclusions and recommendations
III. Facts and details	III. Summary and discussion of facts and details
IV. Discussion and analysis of facts and details	IV. Methods and procedures
V. Recommendations	V. Final conclusion
VI. Conclusion	VI. Appendixes with facts and details

11-34

Conversion Notes
The definitions were added to this slide for the seventh edition.

Slide 35

Organization of the Written Report

- **Primary elements** present the actual information that the report is intended to convey.
- **Secondary elements** package the report so the reader can easily identify the report and its primary elements.

11-35

No additional notes.

Slide 36

Secondary Elements for a Written Report

Letter of transmittal

Title page

Table of contents

List of figures, illustrations, and tables

Abstract or executive summary

(The primary elements--the body of the report, in either the factual or administrative format--are presented in this portion of the report.)

Appendices

11-36

No additional notes.

Slide 37

Writing the Report

- Paragraphs should convey a single idea.
- Sentences should not be too complex.
- Write in active voice.
- Eliminate jargon, big words, and deadwood.

11-37

Conversion Notes
The bulleted guidelines are new to the seventh edition.

Slide 38

System Proposal – formal presentations

Formal presentation – a special meeting used to sell new ideas and gain approval for new systems. They may also be used for any of these purposes:

- Sell new system
- Sell new ideas
- Head off criticism
- Address concerns
- Verify conclusions
- Clarify facts
- Report progress

11-38

No additional notes.

Slide 39

Typical Outline and Time Allocation for an Oral Presentation

I. Introduction (one-sixth of total time available)
   A. Problem statement
   B. Work completed to date
II. Part of the presentation (two-thirds of total time available)
   A. Summary of existing problems and limitations
   B. Summary description of the proposed system
   C. Feasibility analysis
   D. Proposed schedule to complete project
III. Questions and concerns from the audience (time here is not to be included in the time allotted for presentation and conclusion: it is determined by those asking the questions and voicing their concerns)
IV. Conclusion (one-sixth of total time available)
   A. Summary of proposal
   B. Call to action (request for whatever authority you require to continue systems development)

11-39

No additional notes.

Slide 40

Guidelines for Visual Aids

Source: Copyright Keith London

11-40

No additional notes.

Slide 41
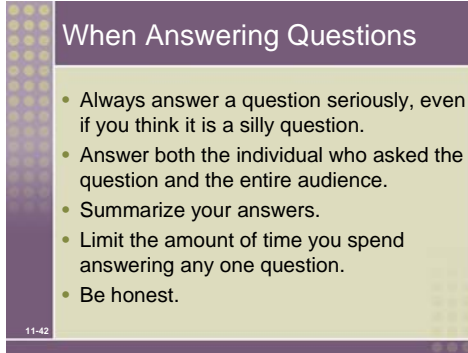
Conducting the Formal Presentation

- Dress professionally.
- Avoid using the "I" word when making the presentation.
- Maintain eye contact with the group and keep an air of confidence.
- Be aware of your own mannerisms.

11-41

Conversion Notes
This slide is new to the seventh edition.

Slide 42

When Answering Questions

- Always answer a question seriously, even if you think it is a silly question.
- Answer both the individual who asked the question and the entire audience.
- Summarize your answers.
- Limit the amount of time you spend answering any one question.
- Be honest.

11-42

Conversion Notes
This slide is new to the seventh edition.

Answers to End of Chapter Questions and Exercises

Review Questions

1. Feasibility should be measured throughout the system development life cycle, since the scope and complexity of a project may change. It is especially true when we have come to better understand the initial problems and opportunities identified. Thus, a project's feasibility may change.

2. The first checkpoint is during the scope definition phase. During this phase, the feasibility analysis is conducted to assess whether the problem is urgent or serious enough to justify the cost of moving forward with a more detailed analysis

   The second checkpoint is after the problem analysis is completed. By this checkpoint, there is a better understanding of the problem(s) and the systems analysts will be able to more accurately estimate the development costs (although they will still be very approximate since user requirements have not yet been completely defined) and the benefits that a new system may bring.

   The third checkpoint is at the decision analysis phase. During the decision analysis phase, candidate solutions are defined and evaluated in detail. Since problems and requirements should be well known by this point, the feasibility analysis should also be more accurate.

3. The objectives of operational feasibility are to measure the degree to which the solution will resolve the problem, and the degree to which the organization is likely to accept the solution

4. It is important because no matter how workable the solution may be, it could still fail if the end-users or management resist and do not accept the solution. The support of management and end-users is critical to the success of a system.

5. The usability analysis is generally performed in the later stages of the system life cycle in order to determine operational feasibility, specifically to measure how well the user interfaces work. A functional system prototype, if available, may be used in this analysis.

   The objective is to determine how usable the system's user interfaces are by measuring ease of learning, ease of use and user satisfaction with the interface. The analysis involves seeing where in the system the users are more likely to make mistakes and to identify any functionality that is confusing or

too complex. The reactions of the users and their productivity are examined as well.

6. Technical feasibility looks at whether the proposed solution is practical from a technology standpoint, whether the organization will need to acquire the required technology, and whether the organization has the necessary technical expertise to support the proposed solution.

7. System development costs are one-time costs that will not be incurred again after the project is finished.

   Example: Personnel costs such as the salaries (and benefits if they are permanent employees) for the members of the project team, initial training, and acquisition costs for hardware and software.

   Operating costs, on the other hand, are ongoing costs to support and maintain the system until it is retired or replaced. .

   Example: Personnel costs for support staff, ongoing training costs for new personnel, computer usage time, and maintenance agreement costs for computer hardware and software.

8. • Fewer processing errors
   • Greater throughput
   • Less response time
   • Elimination of job steps
   • Increased sales
   • Reduced credit losses
   • Reduced expenses

9. The time value of money means that the money ou have today is worth more than the same amount of money one year from now, because it could be invested and accrue interest. The time value of money concept is used by the three most popular techniques for determining economic feasibility, because it provides a method for time-adjusting costs and benefits for comparing projects that have different usable lives.

10. • Payback analysis
    • Return-on-Investment (ROI) analysis
    • Net present value

11. The candidate systems matrix is used to compare and document the characteristics of the different candidate systems; it is a comparative rather than analytical tool

The feasibility analysis matrix is used to analyze and rank the different candidate systems. It is usually used in conjunction with the candidate systems matrix to provide a complete comparison, analysis and ranking of the different proposed systems.

12. The factual format is a traditional format that begins with project background information, goes through methodology, facts, details and analysis, and then ends with the recommendation and conclusion. This format is geared to those who need to closely review detailed information, such as systems users, rather than a summary.

    The administrative format is frequently used when the intended or primary audience is managers and executives who do not have the time to read through a lengthy report. This format focuses on delivering the information they are interested in by beginning with the report conclusions and/or recommendations.

13. Initial preparation: define objectives, scope, and strategy; clarify material; define readership and method ➔ Outline: headings; illustration titles ➔ Draft text and illustrations ➔ Rewrite/ Edit ➔ Final type ➔ Proofread ➔ Reproduce/ bind ➔ Check ➔ Distribute

14. Presentations are beneficial because presenters can get feedback and responses immediately. The audience can have interaction with the presenter face to face that cannot be achieved in written words.

    The disadvantage is that the audience may easily forget the presentation because the words are spoken and the visual aids are only temporary.

15. Copies of the written report should be sent to the audience in order to provide them with a more permanent form of information.

Problems and Exercises

1. a. The creeping commitment approach calls for determining the feasibility of a project not only at the beginning of the project, but continuing to measure feasibility throughout the project life cycle. This approach is based upon the possibility (and in some cases, unfortunately, the probability) that a project which was feasible initially may become infeasible at a later point before the project is completed.

   b. Scope can and often does change during a project, in addition, as analysis progresses, the project may turn out to be more complex than originally perceived. Further, in the volatile atmosphere and frenetic pace of today's business world, business drivers and project sponsors may change rapidly. All these factors may have a negative impact upon the feasibility of a project.

   c. In general, a project should be canceled if it becomes infeasible, regardless of the amount of resources it has consumed. A basic tenet of business management is to not throw good money after bad. This is definitely true for projects, not only for the one-time costs, but also why spend money on ongoing operations for a system that is not feasible?

2. a. The checkpoints occur at scope definition, problem analysis, and decision analysis.

   b. Feasibility determination is very approximate at the systems analysis checkpoint, but is becomes increasingly refined and more accurate through each checkpoint as more information becomes known.

   c. All feasibility analysis checkpoints are critical, but the decision analysis checkpoint is generally considered the most critical because, as the name implies, this is the decision point on whether to proceed, which option to choose, and to commit the organization's resources to construction and implementation, which is generally considered the most expensive part of the project.

3. The four feasibility test categories, and their measurement criteria, are:

   1. Operational feasibility
     i. Is the problem important or urgent enough to solve? Will the solution work?
     ii. How do or will stakeholders feel about the solution; is it a good "fit" for the organization?
   2. Technical feasibility
     i. Is the solution practical?
     ii. Does the organization have the technology needed for the solution?
     iii. Does the organization have the technical expertise needed for the solution?
   3. Schedule feasibility – is the schedule "doable?" If not, can it be made doable?
   4. Economic feasibility - Are the benefits to be derived from the project worth the costs involved?

4. The usability analysis tests the system's user interfaces. Accordingly, your plan should include:

   a. How test participants will be selected, which groups do they represent, and how many are needed.
   b. What sort of facilities will be needed, and whether the participants will be observed or videotaped.

    c. The usability criteria, i.e., ease of learning, ease of use and user satisfaction as the core criteria. If there are other specific things that need to be evaluated, they should be identified in your plan.
    d. The survey or data collection instrument that you will use to measure the usability criteria described above.
    e. The schedule for testing.
    f. How you will report the results

5. In this exercise, you are expected to go through the process for estimating the costs of development and ongoing support. The primary intent is to identify all the different areas where costs can be incurred, and to develop a methodology for estimating what those costs will be. While there is not a "correct" answer per se, your worksheet should reflect the following:

    a. One-time costs should be shown separately from ongoing costs.
    b. Personnel costs should reflect all staff involved in the project, their hourly costs, and the number of hours they will be committed to the project.
    c. Contract costs for the consultants
    d. Training
    e. Purchase costs for new hardware
    f. Any miscellaneous costs
    g. Ongoing operating costs should also break out fixed and variable costs.

6. The expected tangible benefits would be reduced labor for both the employees completing the activity reports and the support staff who have to compile them and produce summary activity reports. Tangible benefits should also include fewer errors that need to go back for correction, since the system can be expected to catch them at point of data entry, and elimination of job steps.
    The calculations for estimating the annual savings should closely follow the example provided in the textbook. E.g., estimate the average time savings for the impacted groups, i.e., all employees and the support staff, estimate the average hourly labor costs for each group, do your calculations, check it for reasonableness, and you will have an estimate of the tangible benefits to be realized.

7. #2 offers the highest ROI, but none meets the organization's minimum acceptable lifetime ROI.

	Estimated Lifetime Benefits	Estimated Lifetime Costs	ELB – ELC	Lifetime ROI
Candidate Solution #1:	$640,000	$ 372,000	$268,000	72%
Candidate Solution #2:	$640,000	$ 360,000	$280,000	77%

Candidate Solution #3: $640,000 $ 385,000 $255,000   66%

8. The different approaches for identifying candidate solutions include:
   a. Suggestions from users
   b. Organization's IT Architecture Plan
   c. Brainstorming with project team members
   d. Consultants
   e. Reviewing pertinent literature

   You may choose any approach, but your answer needs to support it by explaining why the chosen approach is more likely to identify the best solution than the other methods.

9. There are many potential candidate solutions. The descriptions in the matrix should make it clear whether the candidate solutions will be developed in-house by staff or a purchased COTS solution. The benefits that are described should focus on the business benefits, not the technological benefits other than how they help meet the business objects Some of the solutions your instructor may expect to see described in the method of data processing probably include client/service and web-based application approaches. A candidate solution that includes a data analysis module should also be identified. Also, each candidate solution description should be "stand-alone," i.e., there should not be any comparison of one solution versus another at this point.

10. The specific weighting factors you use are subjective, but since the CEO has emphasized the need to implement a solution as quickly as possible, the weighting factor schedule feasibility should reflect this priority. Given the fairly specialized nature of the application, a COTS solution will probably not score high on operational feasibility. In terms of technical and perhaps economic feasibility, a web-based candidate solution should probably score high in these areas.

11. Since the audience for this report is executive-level managers, you should use the administrative format and limit the length of the report to one or two pages. The report should follow the guidelines described in the chapter, be consistent with the feasibility analysis matrix, and include a letter of transmittal.

12. You have a good deal of creative freedom with the content and organization of your set of PowerPoint slides, but they should be in line with some basic guidelines:

   a. The PowerPoint slides are a visual <u>aid</u> only; <u>you</u> are the main presenter. Therefore, each slide should contain no more than a single idea.

    b. The PowerPoint slides should contain just enough words on each slide to convey the idea. The slides shouldn't be narratives, crowded with bullet items, or so brief no one can figure them out!

    c. The slides, like your presentation, should be in a logical order, and not haphazardly organized.

    d. The number of slides should map closely to the number of points you are covering in your presentation. If there are more than a couple of dozen slides, either your PowerPoint presentation is definitely too detailed, or you are definitely trying to cover too much detail in your executive-level presentation.

    e. The color design should not be garish or make the text hard to read.

    f. Special effects should be conservative, and far and few between. They may be funny the first time (or not), but they definitely get annoying and distracting thereafter.

13. Some of the "don'ts" include:

    1. Not be prepared for the presentation
    2. Not hit the main target – the feasibility analysis – quickly enough
    3. Not use any visual aids or handouts.
    4. Not keep the presentation to an appropriate length
    5. Not say "we" or "our"
    6. Not anticipate their questions and be prepared for them
    7. Not make eye contact with the group
    8. Not be aware of your verbal and physical mannerisms
    9. Not take a question seriously, regardless of how asinine you might really think it is
    10. Not be honest in your response to a question to which you don't know the answer, but try to bluff instead
    11. Not answer to the entire group the question from an individual
    12. Dress over-casually, even if your executives do

Project and Research

1. Open-ended; responses should be insightful, logical, well reasoned and well thought out, and demonstrate an understanding of the essential similarities and differences in software development projects versus construction projects. For example, response could and should include a discussion pointing out that the body of knowledge on construction projects is far more mature than for software engineering, and that information systems are inherently more difficult to design because the rules on which they are built are far less cut-and-dried and far more fluid.

2. Students have carte blanche as to their candidate solutions. Expect that the majority will include options that employ modern (or at least more mod-

ern) technology, such as a client/server-based system for field office data entry, web-based applications, or laptops with handwriting recognition. As always, responses should be consistent with the tools and techniques described in the textbook, logical and reasonable, and should demonstrate an understanding of the basic concepts of a feasibility analysis.

3. Response should closely follow the economic feasibility tools and techniques described in the book, and should be mathematically correct. Analysis of each candidate solutions should be unbiased and the analysis of the lower-scoring candidate solutions should not fall into the common trap of being pro forma.

4. Report should be three to five pages, and should use the "administrative format." The report should be consistent with the instructions included in the textbook and should be in alignment with the feasibility analysis matrix. Report should also be appropriately professional in content, tone and presentation.

5. Description of preparatory steps should be generally consistent with the steps given in the textbook, but students may choose alternative or expanded paths. The PowerPoint presentation should be appropriate in length, content and format for the subject matter and audience. It should also follow established principles of effective design. The response to the most critical thing to know is subjective, but will probably be something along the lines of knowing your audience, knowing your subject matter, knowing what questions to anticipate, etc.

6. This question is intended to expose the student to the wide range of tools and techniques for preparing feasibility study report, so the response can be open-ended. Responses to the ideal FSR template should indicate whether the student has a basic grasp, both in concept and in practice.

Mini-Cases

1. Note to professor: Students will have differing conclusions based on the initial assumptions they make. Have students share both their assumptions and their conclusions with the rest of the class. Have students note the difference. For grading, observe the logic and research that was used to make assumption and to derive the conclusions. I.e. while it is ok for students to have differences in their work, it is not ok for the work to be un-researched, or lacking in solid reasoning.

2. Note to professor: Clearly, the choice of functionality and underlying technologies will impact the feasibility of the project – but only minimally, since ecommerce is very much of an established sales channel. The affect that is

had will depend on the assumptions the student(s) made about the business and its employees, customers, etc.

3. Note to professor: Students need to be very thorough in their assessment of intangible costs and benefits as well as the tangible ones. They should do this by utilizing surveys, existing data on other ecommerce sites, etc. They should also be quite aware that forecasts of demand and gaining market share will be strongly affected by consumer behavioral issues. Who generally does the food shopping? How do they feel about online shopping for groceries? Does the target market feel strongly about delivery vs. pickup of their food? Encourage students to explore the "people" side of monetary issues in IT.

4. Note to professor: Delays or deadline problems will most likely not be due to technical difficulties, but rather behavioral or resource related problems. For example, a key member of the team gets the flu and is unable to work for a week. Remind students that life issues can and will happen. They need to consider the impact of the unexpected on their timeline.

Team and Individual Exercises

There are no answers to this section.