Learning Guide Unit 2

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Book: Learning Guide Unit 2

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Description

Learning Guide Unit 2

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Overview

Unit 2: Project Initiation, Analysis and Design

Topics:

- Organizational Reengineering
- Enterprise Planning
- Feasibility Analysis
- Organizational Support
- CASE Tools

Learning Objectives:

By the end of this unit you will be able to:

1. Examine the impact of implementation planning on re-engineering and the role of affinity analysis
2. Compare top down approach, bottom up estimating, and function point analysis
3. Discuss steps involved in feasibility analysis and the importance of cost and schedule estimation
4. Develop Pert/CPM for a hypothetical scenario/ case study

Tasks:

- Read through the Learning Guide and the Reading Assignment
- Complete the Discussion Assignment by posting in the Discussion Forum
- Respond to three of your fellow classmates' posts in the Discussion Forum
- Complete and submit the Programming Assignment
- Submit the Learning Journal
- Take and submit the Self-Quiz

Introduction

Chapter 5: Discusses that reengineering can introduce radical change into organizations with information technologies as key to supporting new organizational forms and providing information delivery to its users. When radical approaches are not necessary (or wanted), the techniques of reengineering can be scaled down to provide enterprise level plans for information systems. Reengineering of an organization reevaluates data, processes, technologies, and communications needs to ensure that an enterprise meets its goals as stated in its mission statement. The activities of reengineering include the data collection, analysis, and development of recommendations to meet organizational goals through radical redesign of work.

Chapter 6: Discusses that feasibility analysis gives a development project a scope and refined definition of application purpose while providing information that allows the determination of technical, organizational, and financial readiness of the organization. The steps to performing feasibility analysis are: collect data, define scope and functions, define technical alternatives, define benefits and risks of each alternative, analyze organizational and technical feasibility, select technical alternative(s), define the project plan, assess financial feasibility, and select a final alternative. The chapter further explores different estimating techniques for projecting time to complete a project: algorithmic, top-down, bottom-up, price-to-win, Parkinson's Law, expert judgment, function point analysis, and analogy. Of these, CoCoMo and Function point are the most popular Function point analysis complements CoCoMo in developing an estimate of LoC. CoCoMo can use the LoC estimate as input to its formulae to develop total person-month, total development time, and project staffing estimates.

Reading Assignment

TEXT: The New Software Engineering:

- Chapter 5: Organizational Reengineering and Enterprise Planning
- Chapter 6: Application Feasibility Analysis and Planning
- Part III: Introduction to Analysis and Design
    - Organizational and Automated Support
    - CASE Tools

Additional Readings:

CoCoMo

- Module 1 Software Project Planning: https://www.javatpoint.com/software-project-planning ;
- CoCoMo - Seminar on Cost Estimation: https://www.javatpoint.com/cocomo-model

PERT/CPM

- Supporting Planning and Control: A Case Study: Download the pdf.
- Project Management: Download the pdf.

CASE

- Module 15 Computer Aided Software Engineering
- Chapter 6 CASE Technology: https://www.utdallas.edu/~chung/RE/RE_chapters/Chapter%206.pdf

Discussion Assignment

Discuss the effect of implementation planning and reason the role of affinity analysis on reengineering effort. What results are based on affinity analysis? Also discuss, why cost and schedule estimates are done before detailed requirements/design analysis? When, do you think, can these be estimates be postponed to a later stage of software development?

You must post your initial response (with references) before being able to review other student's responses. Once you have made your first response, you will be able to reply to other student's posts. You are expected to make a minimum of 3 responses to your fellow student's posts.

Programming Assignment

Using Table 6-16 in The New Software Engineering text as a guide, develop a CPM for the **design phase** of ABC's project. While you do the diagram, reason through the dependencies. Assuming Sam and Mary do the project alone, how should the work be allocated among them to (a) allow Mary to do project management tasks, and (b) leverage the work they did during analysis?

Papers will be graded on the following:

- The student mentioned all the dependencies?
- Is the work allocated carefully by allowing Mary to do the Project management tasks?
- Is an appropriate activity sequence established for the CPM developed?
- Has the student drawn a network diagram based on the activity sequence?
- Is the 3 point estimation method or CoCoMo based estimation methods for tasks estimation used for creating the CPM?
- Is the final diagram able to show the project progresses clearly?

Learning Journal

Upon completion of this assignment, you will be able to demonstrate your skills and knowledge about:

- steps involved in feasibility analysis and the importance of cost and schedule estimation.
- top down approach, bottom up estimating, and function point analysis.

Before completing this assignment, read the following chapters from the textbook authored by Conger (2008). Refer to the course syllabus to access the textbook.

- Chapter 5: Organizational Re-engineering and Enterprise Planning.
- Chapter 6: Application Feasibility Analysis and Planning.

Assignment instructions

Your company plans to launch a new electric vehicle in the market for which it has nominated you as the Project Manager. Under this role, you are tasked with performing a feasibility study to ascertain the technical and economic feasibility of the proposed new electric vehicle and submit a report. Hence, you are required to:

a. Explain the steps involved in carrying out the said feasibility study, discuss the various aspects that come under technical and economic feasibility and submit your report.

The feasibility study report should have outline or items as below:

- a thorough examination of the requirements necessary to carry out the proposed project.
- a description of the new venture or product,
- a market study,
- the technological and resource requirements,
- the sources of funding and capital,
- Any other relevant information that is deemed necessary may all be included in the report.

b. Analyse the advantages and disadvantages of algorithmic, function point, and combined top-down, bottom-up estimating to ascertain the technical and economic feasibility.

Submission instructions

Include in-text citations and references if you refer any material from the online sources. The submission should be a minimum of 500 words and not more than 1000 words.

This assignment will be assessed by your instructor using the rubric located on the assignment page on the course home page.

References

- Conger, S. (2008). Organizational Reengineering and Enterprise Planning. In *The New Software Engineering*. (pp. 113-143). Global Text Project
- Conger, S. (2008). Application Feasibility Analysis and Planning. In *The New Software Engineering*. (pp. 148-198). Global Text Project.

Self-Quiz

The Self-Quiz gives you an opportunity to self-assess your knowledge of what you have learned so far.

The results of the Self-Quiz do not count towards your final grade, but the quiz is an important part of the University's learning process and it is expected that you will take it to ensure understanding of the materials presented. Reviewing and analyzing your results will help you perform better on future Graded Quizzes and the Final Exam.

Please access the Self-Quiz on the main course homepage; it will be listed inside the Unit.

Checklist

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