

Final Case Problem Project

Reep Construction recently won a contract for the excavation and site preparation of a new rest area on Interstate Highway 5 in California. In preparing his bid for the job, Bob Reep, founder and president of Reep Construction, estimated that it would take four months to perform the work and that 10, 12, 14, and 8 trucks would be needed in months 1 through 4, respectively.

The firm currently has 20 trucks of the type needed to perform the work on the new project. These trucks were obtained last year when Bob signed a long-term lease with CalState Leasing. Although most of these trucks are currently being used on existing jobs, Bob estimates that one truck will be available for use on the new project in month 1, two trucks will be available in month 2, three trucks will be available in month 3, and one truck will be available in month 4. Thus, to complete the project, Bob will have to lease additional trucks.

The long-term leasing contract with CalState charges a monthly cost of \$600 per truck. Reep Construction pays its truck drivers \$20 an hour, and daily fuel costs are approximately \$100 per truck. All maintenance costs are paid by CalState Leasing. For planning purposes, Bob estimates that each truck used on the new project will be operating eight hours a day, five days a week for approximately four weeks each month.

Bob does not believe that current business conditions justify committing the firm to additional long-term leases. In discussing the short-term leasing possibilities with CalState Leasing, Bob learned that he can obtain short-term leases of one to four months. Short-term leases differ from long-term leases in that the short-term leasing plans include the cost of both a truck and a driver. Maintenance costs for short-term leases also are paid by CalState Leasing. The following costs for each of the four months cover the lease of a truck and driver:

Length of Lease	Cost per Month
1	\$4,000
2	\$3,700
3	\$3,225
4	\$3,040

Bob Reep would like to acquire a lease that minimizes the cost of meeting the monthly trucking requirements for his new project, but he also takes great pride in the fact that his company has never laid off employees. Bob is committed to maintaining his no-layoff policy; that is, he will use his own drivers even if costs are higher.

Questions to be answered in your report:

Write a report that outlines the questions and follows the structure requirement.

Perform an analysis of Reep Construction's leasing problem and prepare a report for Bob Reep that summarizes your findings. Be sure to include information on, and analysis of, the following items:

- The optimal leasing plan
- The costs associated with the optimal leasing plan
- The cost for Reep Construction to maintain its current policy of no layoffs

Make sure your case study report includes the following structures: (1) Introduction, (2) Data Presentation, (3) Model Specification, (4) Interpretation of Results, (5) Integration of Biblical Principle, and (6) Policy Recommendations & Conclusion.

- **Introduction** – Paper must define the problem scope and outline the objectives of the analysis in a clear, concise, and professional manner.

- **Data Presentation:** Paper must present a summary of data in an accurate and professional manner, and provide accurate interpretation of the data.

- **Model Specification:** Paper must specify the appropriate linear programming model in an accurate and professional manner. Provide details & accurate equations for objective functions, constraints and decision variables and their descriptions to answer the questions.

- **Interpretation of Results:** Paper must provide a clear, concise, consistent and accurate summary of results from linear programming models. The results should be based on answer reports, and sensitivity reports.

- **Policy Recommendations & Conclusions:** Paper must address policy recommendations and/or implications in the business world in a professional manner. In other words, students must provide a clear recommendation and plan of action.

- **Integration of Biblical Principle:** Paper must identify and integrate biblical principles into the decision-making process in an appropriate and insightful manner.

Requirements of the assignment:

- All papers must follow all APA requirements including an abstract. (10% deduction if not)

- All papers must have a reference page. The textbook is an acceptable source.

- Body of the paper 4 - 5 pages, no more or less.

- Title page, abstract, and reference pages are required. However, they do not count towards any page count.

- Writing should reflect an understanding of the chapter's basic concepts, thorough research, and logic and critical thinking skills.

- The introduction is attention getting with sufficient background information to establish the topic and a clear thesis statement.

- The conclusion summarizes the main points and leaves the reader with a strong comprehension of the paper’s significance and the author’s understanding.
- Grammatically correct -No spelling, grammar, or mechanics errors.
- Do not use the first person. (10% deduction if used). Rubric used for grading assignment:

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	Exemplary	Accomplished	Developing	Beginning
Dimension 1: Introduction CLO – 1.1, 1.2, 1.3 SLO – 1	Paper defines the problem scope and outlines the objectives of the analysis in a clear, concise, and professional manner	Paper defines the problem, scope and outlines the objectives of the analysis mostly in clear, concise, and professional manner	Paper defines the problem and scope, but fails to outline the objectives of the analysis	Paper does not define the problem, scope and outline the objectives of the analysis
Dimension 2: Data Presentation CLO- 1.1 SLO- 1, 2, 3, 5	Paper presents summary of data in an accurate and professional manner, and provides accurate interpretation of the data	Paper presents summary of data mostly in an accurate and professional manner, and provides accurate interpretation of the data with minor errors	Paper presents summary of data in an acceptable manner, but interpretation of the data contains major errors	Paper does not present summary data
Dimension 3: Model Specification on CLO 1.1, 2.1 SLO- 2, 3, 5	Paper specifies appropriate statistical or/and linear programming model in an accurate and professional manner and provides accurate equations and a detailed description of decision variables	Paper specifies appropriate statistical or/and linear programming model mostly in an accurate and professional manner and provides accurate equations and a detailed description of decision variables	Paper specifies appropriate statistical or/and linear programming model in an acceptable manner, and provides a detailed description of decision variables. However, paper provides erroneous equations.	Paper either does not specify statistical or/and linear programming model or specifies model in an unacceptable manner. No equation and description of decision variables were provided.

Dimension 4: Interpretation of Results CLO 1.2, 2.2, 2.3 SLO – 2, 3, 5	Paper provides a clear, concise, consistent and accurate summary of results from statistical or linear programming models and uses words that could be understandable to the general public	Paper provides a fairly clear, concise, consistent and accurate summary of results from statistical or linear programming models with minor errors, and uses words that could be understandable to the general public	Paper provides summary of results from statistical or linear programming models, but with significant number of errors, and interpretations are not understandable to the general public	Paper does not provide summary of results from statistical or linear programming models
Dimension 5: Integration of Biblical Principle CLO 2.3 SLO- 4	Paper identifies and integrates biblical principles into the decision making process in an appropriate and insightful manner	Paper identifies and integrates biblical principles into the decision making process mostly in an appropriate and insightful manner	Paper identifies and integrates biblical principles into the decision making process partially in an appropriate and insightful manner	Paper does not identify and integrate biblical principles into the decision making process
Dimension 6: Policy Recommendations & Conclusion CLO- 1.1, 2.2, 2.3 SLO- 1	Paper addresses policy recommendations/ implications in a business world in a professional manner and provides clear and concise conclusions	Paper addresses policy recommendations/ implications in a business world in a fairly professional manner and provides clear and concise conclusions	Paper addresses policy recommendations/ implications in a business world, but they are not relevant to the results. Conclusions are inconsistent and unclear.	Paper does not address policy recommendations/ implications and provide any conclusions.
Dimension 7: Quality of Writing CLO -1.2, 2.2, 2.3 SLO- 1	Paper demonstrates smooth transitions between sentences and paragraphs with no typos and grammatical errors and satisfies APA standards	Paper demonstrates fairly smooth transitions between sentences and paragraphs with some typos and grammatical errors and satisfies APA standards	Paper demonstrates shaky transitions between sentences and paragraphs with major typos and grammatical errors and satisfies APA standards	Transitions between sentences and paragraph are very shaky and paper is extremely difficult for reader to understand with multiple typos and grammatical errors. APA standards were not met.