QUM2 — QUM2 TASK 2: DECISION TREE ANALYSIS

**DATA-DRIVEN DECISION MAKING — C207**

**PRFA — QUM2**

TASK OVERVIEWSUBMISSIONSEVALUATION REPORT

COMPETENCIES

**3009.1.1**: **The Case for Quantitative Analysis**

The graduate uses decision-making methods to develop strategies for organizational decision processes.

**3009.1.2** : **Statistics as a Managerial Tool**

The graduate uses a variety of decision-analysis tools to evaluate alternatives during the decision-making processes.

**3009.1.3** : **More Statistical Tools**

The graduate uses quantitative techniques and statistical tools to identify the most appropriate decision alternatives.

**3009.1.4** : **Quality Metrics and Tools**

The graduate analyzes how work is accomplished and applies quality metrics and tools to increase efficiency, effectiveness, and quality.

**3009.1.5** : **Real World Data-Driven Decisions**

The graduate analyzes data from business intelligence and knowledge-management systems to make appropriate decisions.

**3009.1.6** : **Improving Organization Performance**

The graduate uses appropriate data to improve organizational performance.

INTRODUCTION

Managers are required to organize, interpret, and display data that is relevant to the real-world business decisions they must make in their businesses. Business decisions must be based on relevant and reliable data. The use of analytical tools will improve your ability to use data to make informed decisions.  
  
In this task, you will address the business situation in the attached scenario. You will access the scenario and data set by entering your student ID number in the “Start” tab of the “Decision Tree Resources” attachment. The scenario and data set are located in the “Decision Tree Scenario” tab. Using this data set, you will perform a decision tree analysis and recommend a solution. This recommendation will be included in a report that you will write, summarizing the key details of your analysis.  
  
For full functionality of the scenario and data attachment, you are strongly encouraged to use Microsoft Excel, which is available via the Microsoft Office 365 subscription service provided to all WGU students. It can be downloaded using the "Microsoft Office 365" link in the weblinks section.

SCENARIO

Refer to the scenario located in the attached “Decision Tree Analysis Resources.”

REQUIREMENTS

*Your submission must be your original work. No more than a combined total of 30% of the submission and no more than a 10% match to any one individual source can be directly quoted or closely paraphrased from sources, even if cited correctly. The originality report that is provided when you submit your task can be used as a guide.*

*You must use the rubric to direct the creation of your submission because it provides detailed criteria that will be used to evaluate your work. Each requirement below may be evaluated by more than one rubric aspect. The rubric aspect titles may contain hyperlinks to relevant portions of the course.*

*Tasks may****not****be submitted as cloud links, such as links to Google Docs, Google Slides, OneDrive, etc., unless specified in the task requirements. All other submissions must be file types that are uploaded and submitted as attachments (e.g., .docx, .pdf, .ppt).*

Complete your decision tree analysis and create a report (*suggested length of 2–4 pages or 800 words*) by doing the following:

*Note: You are encouraged to use the template located within the attached “Decision Tree Analysis Resources” to complete your analysis. While it is required that you use the scenario and data set located in the attachment, the use of the data analysis template is optional.*

1. Describe a business question that could be answered by applying decision tree analysis and is derived from the scenario in the attached “Decision Tree Analysis Resources."

The business question is accurately described, is relevant to the scenario, and is appropriate for decision tree analysis (see Excel WS – Decision Tree Diagram)

B.  Identify the relevant data values required for your decision tree analysis, including the following:

•   probabilities

•   payoffs

•   profits

•   demand

The relevant data values are accurately identified for the decision tree analysis, including each of the given elements (see Excel WS – Decision Tree Diagram)

C.  Report how you analyzed the data using decision tree analysis by doing the following:

1.  Complete a decision tree diagram, including *each* of the following:

•   state-of-nature nodes

•   calculated payoffs, *each* expressed out to two decimal places

•   expected values, *each* expressed out to two decimal places

  The decision tree diagram accurately includes each of the given elements (see Excel WS – Decision Tree Diagram)

*Note:* *You can submit the completed decision tree diagram using a separate attachment or the optional template on the attached “Decision Tree Analysis Resources.”*

*Note: Refer to “*[*Prepare for the Performance Assessment Task 2*](https://lrps.wgu.edu/provision/313048770)*” in the course of study to see examples of acceptable output.*

2.  Justify why decision tree analysis is the appropriate analysis technique, including relevant details from the scenario to support your justification.

The justification of decision tree analysis logically explains why it is the appropriate analysis technique and is supported with relevant details from the scenario.

D.  Summarize the implications of your decision tree analysis by doing the following:

1.  Explain the role of probabilities and the role of demand for *each* branch.

The explanation logically addresses both the role of probabilities and the role of demand for each branch of the decision tree analysis.

2.  Explain how the expected value of *each* node is determined based on payoffs.

 The explanation logically and accurately addresses each step required to determine the expected value of each node based on payoffs

*Note: Refer “*[*Prepare for the Performance Assessment Task 2*](https://lrps.wgu.edu/provision/313048770)*” in the course of study to see an example of an acceptable discussion of results.*

3.  Discuss **one** limitation of *each* of the following:

•   the data elements

•   the decision tree analysis

The discussion logically addresses 1 limitation of the data elements and 1 limitation of the decision tree analysis

E.  Recommend a course of action that addresses the business question from part A and is based on the results of your decision tree analysis.

The recommended course of action is logically supported by the results of the decision tree analysis and appropriately addresses the business question from part A.

F.  Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.

The submission includes in-text citations for sources that are properly quoted, paraphrased, or summarized and a reference list that accurately identifies the author, date, title, and source location as available

G.  Demonstrate professional communication in the content and presentation of your submission.

Content reflects attention to detail, is organized, and focuses on the main ideas as prescribed in the task or chosen by the candidate. Terminology is pertinent, is used correctly, and effectively conveys the intended meaning. Mechanics, usage, and grammar promote accurate interpretation and understanding.

**File Restrictions**

File name may contain only letters, numbers, spaces, and these symbols: ! - \_ . \* ' ( )  
File size limit: 200 MB  
File types allowed: doc, docx, rtf, xls, xlsx, ppt, pptx, odt, pdf, txt, qt, mov, mpg, avi, mp3, wav, mp4, wma, flv, asf, mpeg, wmv, m4v, svg, tif, tiff, jpeg, jpg, gif, png, zip, rar, tar, 7z

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