NKM2 — NKM2 TASK 2: DATA ANALYTICS REPORT AND EXECUTIVE SUMMARY

DATA ANALYTICS GRADUATE CAPSTONE — D214
PRFA — NKM2

COMPETENCIES

981.1.1 : Capstone
The graduate integrates and synthesizes competencies from across the degree program and thereby demonstrates the ability to participate in and contribute value to the chosen professional field.

INTRODUCTION

Before starting this task, ensure that task 1 has been approved by a course mentor. If task 1 has not been approved, your task 2 submission will be returned without evaluation.

In this task, you will address the real-world research question you identified in task 1. You will gather relevant data, analyze the data, and recommend a solution. This recommendation will be included in a report that you will write, summarizing the key details of your analysis.

Your competency as it relates to the program outcomes will be demonstrated through the completion of this capstone. The program competencies required for this degree program are as follows:

1. The graduate implements a plan for solving a organizational problem managing a diverse tools, resources, and stakeholders.
2. The graduate evaluates phenomena represented in data sets for forecasting trends and solving problems.
3. The graduate utilizes industry-standard tools for manipulating and representing data.
4. The graduate communicates information and data trends using data storytelling and visualization techniques.
5. The graduate applies industry standards and best practices in data mining and machine learning to an organizational decision-making process.

Note: You must successfully pass task 1 before you begin working on task 2. However, in practice, your topic, data scope, and research question may change based on your findings as you complete your research. Your work on task 2 may lead you to recognize that more data is needed and that it must be approved data. For this reason, you may need to update your task 1 forms before task 2 is complete.

Note: Any information that would be considered confidential, proprietary, or personal in nature should not be included in the actual task submission to WGU. Do not include the actual names of people, suppliers, or companies, or other identifiable information. Fictional names should be used where necessary. Company-specific data, including financial information, should not be included but should be addressed in a general fashion as appropriate.

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).*

Create a report by doing the following:

Research Question

A. Summarize the original real-data research question you identified in task 1. Your summary should include justification for the research question you identified in task 1, a description of the context in which the research question exists, and a discussion of your hypothesis.

Data Collection

B. Report on your data-collection process by describing the relevant data you collected, discussing one advantage and one disadvantage of the data-gathering methodology you used, and discussing how you overcame any challenges you encountered during the process of collecting your data.

Data Extraction and Preparation

C. Describe your data-extraction and -preparation process and provide screenshots to illustrate *each* step. Explain the tools and techniques you used for data extraction and data preparation, including how these tools and techniques were used on the data. Justify why you used these particular tools and techniques, including one advantage and one disadvantage when they are used with your data-extraction and -preparation methods.

Analysis

D. Report on your data-analysis process by describing the analysis technique(s) you used to appropriately analyze the data. Include the calculations you performed and their outputs. Justify how you selected the analysis technique(s) you used, including one advantage and one disadvantage of these technique(s).

Data Summary and Implications

E. Summarize the implications of your data analysis by discussing the results of your data analysis in the context of the research question, including one limitation of your analysis. Within the context of your research question, recommend a course of action based on your results. Then propose **two** directions or approaches for future study of the data set.

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

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

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

RUBRIC

A:RESEARCH QUESTION

NOT EVIDENT	APPROACHING COMPETENCE	COMPETENT
A summary of the research question is not provided.	The summary of the research question does not include justification for the question, a description of the context, or a discussion of the hypothesis. 1 or	The summary of the research question includes justification for the question, a description of the context, and a discussion of the hypothesis. *Each* of

more of these elements do not align with each other, or the hypothesis is implausible, given the research question.

these elements align with the others, and the hypothesis is plausible, given the research question.

B:DATA COLLECTION

NOT EVIDENT	APPROACHING COMPETENCE	COMPETENT
A report on the data-collection process is not provided.	The report on the data-collection process does not include a description of the data collected, a discussion of one advantage and one disadvantage of the methodology used, or a discussion of how challenges in the process were overcome. 1 or more of these elements do not align with each other, or the methodology used was inappropriate for the data collected.	The report on the data-collection process includes a description of the data collected, a discussion of one advantage and one disadvantage of the methodology used, and a discussion of how challenges in the process were overcome. *Each* of these elements align with each other, and the methodology used was appropriate for the data collected.

C:DATA EXTRACTION AND PREPARATION

NOT EVIDENT	APPROACHING COMPETENCE	COMPETENT
A description of the data-extraction and -preparation process is not provided.	The description of the data-extraction and -preparation process does not include screenshots to illustrate each step; an explanation of the tools and techniques used, including how they were used on the data; or a justification for the tools and techniques, including one advantage or one disadvantage. 1 or more of these elements do not align with each other, the methods used were inappropriate for the data, or no evidence of the work is provided.	The description of the data-extraction and -preparation process includes screenshots to illustrate each step; an explanation of the tools and techniques used, including how they were used on the data; and a justification for the tools and techniques, including one advantage and one disadvantage. *Each* of these elements aligns with the others, the methods used were appropriate for the data, and evidence of the work is provided.

D:ANALYSIS

NOT EVIDENT	APPROACHING COMPETENCE	COMPETENT
A report on the data-analysis process is not provided.	The description of the technique(s) used does not include calculations performed or their outputs. Or the description does not include a justification of why the analysis technique(s) were selected, or one advantage or one disadvantage of these technique(s). Or the description of the technique(s) used or the analysis is not appropriate for the data."	The report on the data-analysis process includes a description of the technique(s) used. The report includes the calculations performed and their outputs as well as a justification of why the analysis technique(s) were selected and one advantage and one disadvantage of these technique(s). The technique(s) used and the analysis are appropriate for the data.

E:DATA SUMMARY AND IMPLICATIONS

NOT EVIDENT	APPROACHING COMPETENCE	COMPETENT

A summary of the implications of the data analysis is not provided.

The summary of the implications of the data analysis does not include a discussion of the data-analysis results in the context of the research question or does not include one limitation of the analysis. Or the summary does not include a recommended course of action, given the research question, or 2 directions or approaches for future study of the data. Or the recommendation and proposals do not relate to the results of the analysis or could not plausibly be carried out in subsequent research.

The summary of the implications of the data analysis includes a discussion of the data-analysis results in the context of the research question, including one limitation of the analysis. The summary also includes a recommended course of action, given the research question, as well as 2 directions or approaches for future study of the data. The recommendation and proposals relate to the results of the analysis and could plausibly be carried out in subsequent research.

F:SOURCES

NOT EVIDENT

The submission does not include both in-text citations and a reference list for sources that are quoted, paraphrased, or summarized.

APPROACHING COMPETENCE

The submission includes in-text citations for sources that are quoted, paraphrased, or summarized and a reference list; however, the citations or reference list is incomplete or inaccurate.

COMPETENT

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:PROFESSIONAL COMMUNICATION

NOT EVIDENT

Content is unstructured, is disjointed, or contains pervasive errors in mechanics, usage, or grammar. Vocabulary or tone is unprofessional or distracts from the topic.

APPROACHING COMPETENCE

Content is poorly organized, is difficult to follow, or contains errors in mechanics, usage, or grammar that cause confusion. Terminology is misused or ineffective.

COMPETENT

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.