

COMM 215 – Winter 2018 - Case Analysis Assignment (10%) Instructor – Samie L.S. Ly

From: Samie L.S. Ly
Sent: March 16, 2018 1:27 PM
To: COMM 215 Winter 2018 Class
Subject: FWD: Need consultancy help from a data expert!

Hello Everyone,

I am forwarding you a request made by my colleague Barbara whose friend Akiko Hamaguchi is seeking for advice on her business. Akiko Hamaguchi, is the manager of a small sushi restaurant in Montreal, Quebec, she is concerned that the weak economic environment has hampered food traffic in the area, causing a decline in her sales.

They would require a full report by **April 16th, 2018 or earlier** dropped inside my mailbox on the 12th floor of the MB Building under the name of Li Shang Ly or handed to me on the last day of class.

To guide you through the process of creating a consultancy report, I have attached two documents.

1. **ReportAkiko_Data:** Data set provided by Hiroshi
2. **ReportAkiko_Questions&Guidelines :** A list of questions the report must answer with guidelines of each section.

From: Barbara Spinelli
Sent: March 15, 2018 6:57 PM
To: Samie L.S. Ly
Subject: FWD: Need consultancy help from a data expert!

Hello Samie,
My friend Akiko is having trouble with her business, can you ask your students to provide expert advice given they are currently taking your statistics course?
Attached is my correspondence with Akiko. She would need the report by April 16th, 2018.

Cheers and thank you,
Barbara S.

From: Akiko Hamaguchi
Sent: March 14, 2018 9:23 AM
To: Barbara Spinelli

Subject: Need consultancy help from a data expert!

Hi Barbara,

How have you been? I am in a pickle lately, trying to sustain my business but I need analysis help. Would you be able to provide a report and advice for me? Given you have contacts at Concordia.

Here is my situation,

9 months ago, I put in all of my money to open up a sushi restaurant, however, with the economic downturn, I have been having trouble meeting my sales figures.

My cousin, Hiroshi Sata on the other hand, lives in Toronto, Ontario. He also owns a similar restaurant but he seems to prosper during these rough times. I spoke to him lately and he agrees that the higher unemployment rates have probably forced some customers to dine out less frequently. Hiroshi keeps an aggressive marketing campaign to thwart this apparent trend. For instance, he advertises in local papers with valuable 2 for 1 coupons and promotes early-bird specials over the airwaves. Despite the fact that advertising increases overall costs, he believes that this campaign has positively affected sales at his restaurant.

Hiroshi sent me his monthly sales data, and advertising costs pertaining to his restaurant, as well as the monthly unemployment rate in his city. I have attached it in this email.

Thanks!

Akiko

ReportAkiko_Questions&Guidelines

Report Preparation

Your report must be typed with 1.5 line spacing. The report must contain only the most relevant figures (tables and graphs), all other supporting figures can be put in the appendix.

Title Page

The title page must include the first name, last name, section, student ID of each team member. All team members must be within the same section and each team must be between 1 to 5 students

Executive Summary (maximum 250 words)

This is a summary of your overall results and conclusions placed at the beginning of the report. It gives easy access to useful information relevant to making decisions. It should be written in a non-technical manner and must not exceed 250 words.

Introduction (maximum 0.5 page)

This is where you explain what you are doing and why. Give a description of the nature and scope of the case, the importance of the problem and the need for its resolution.

Discussion (overall maximum of 8 pages)

This section is the technical part where you have to explain the methods used to generate tables, plots, summary statistics and various results in the study.

Discussion Part 1 - Overview of the data set (maximum 2 pages)

1. Based on your knowledge of descriptive statistics, create 3 graphs and 3 tables representing different types of information from the dataset provided to you. Choose the most pertinent information.
2. Provide a discussion about the overview of the dataset. (What do you see? Is the situation good or bad? etc..)

Discussion Part 2 - Primary Research - Industry Outlook (maximum 2 pages)

3. Utilizing your knowledge of the web, try to collect information on the industry of restauration and how the current situation looks like. Do you agree with Akiko and Hiroshi's opinion?
4. Based on the information collected, present them an analysis and discuss your findings.

Be sure to reference and cite all research sources.

Discussion Part 3 - Analysis of Hiroshi's information (maximum 2 pages)

5. Based on the data set given to you as well as your own research, set up a hypothesis test to see whether the sales figured of Hiroshi are relevant. Test the hypothesis properly and make sure to discuss your conclusion within the context of the problem.
6. What can possibly be a type I and type II error? explain your reasoning

Discussion Part 4 - Helping Akiko build a model (maximum (2 pages)

7. Based on the data provided to you, estimate a simple regression model allowing Akiko to predict her potential Sales figures depending on her Advertising expenses? $\text{Sales} = \beta_0 + \beta_1 \text{Advertising} + \varepsilon$
Please follow the steps of testing a regression equation in a proper manner.
Please conclude within the context of the problem.
8. In addition, it would be good for Akiko to include more than 1 independent variable within the model you are suggesting. Based on the data provided, estimate a multiple regression model for Akiko to predict her potential Sales figured depending on her Advertising expenses and the city Unemployment rate. (As an estimation, we can assume the unemployment rate of Hiroshi are similar to Akiko's). $\text{Sales} = \beta_0 + \beta_1 \text{Advertising} + \beta_2 \text{Unemployment} + \varepsilon$.
9. Discuss why multiple regression models are more appropriate for making predictions.
10. Make the predictions for sales with an unemployment rate of 6% and advertising costs of \$800 and \$1,200. Discuss your findings in the context of the problem.

Recommendation (maximum 0.5 page)

The recommendation provides insight on a strategic level as to what should the client do to improve the situation. Recommendation should be based on your statistical analysis as well as your additional research. Be precise and thorough in suggesting something realistic yet creative.

Conclusion - the next steps for continued analysis (maximum 0.5 page)

The conclusion allows you to take everyone noted in the report and concisely speak about the possibilities of doing a better analysis. What additional steps would you take if you had more information?

Appendix (3 to 5 pages)

In the appendix, you can input all supporting graphs and tables from your analysis and research. These figures were not the most relevant, but you referred to them within the report. Only the most relevant figures should be in the report.

References

It is absolutely crucial to reference all of your research sources and all ideas taken from the web or any other places. If it is not done properly, it can be considered as plagiarism. Please input all references in APA format.

Chart for evaluation

Level of Analysis	Grade	Description
Outstanding	100%	Meets all standards and went beyond the norm to explain and integrate information.
Excellent	85%	The analysis is great, meets statistical standards, reporting is clear and concise. Critical of the information provided. Could improve in innovation.
Great	75%	The analysis is good, meets statistical standards, reporting is clear and concise. Still needs improvement in terms of critical thinking and innovation.
Good	65%	The analysis is acceptable, notations are correct, however does not add much value to the client. It is a repeat of already known information. Still needs improvement in critical thinking.
Mediocre	30%	The analysis is incorrect, notations do not meet statistical standard, reporting is unclear and flawed. Does not meet the criteria of a consultancy report. Did not follow instructions.