

ABT Case Analysis

General Information:

This file introduces the topic for ABT Case Analysis. In this assignment, you will be required to write a report on the given topic.

Deadline:

Individual Descriptive Report **due date is May 12 @ 11:59 PM.**

Requirements:

- Please attach the screenshots of your codes demonstrating all the procedures you used to extract the given information. Include brief explanations for each task in comments.
- Please follow APA style in your paper for all the parts of your essay. You can find APA information on your course page.
- Please support all the provided information from other sources with appropriated references.
- Search for best practices to write different part of your paper. For example, for the Introduction part, you can click on the following link and watch that short video:
<https://www.youtube.com/watch?v=FTC-5P1VFFU>
- The report should not exceed 2000 words (not including the title page or reference page). There is no minimum word count. The key is whether the essay thoroughly covers the provided topic.
- Turnitin score of less than 10% is required. Note that Turnitin does not count quoted material and References section.
- Providing the proof of Algarism at the end of your assignment file is required (for each page of your paper separately). You can find more information about how to provide the proof of Algarism in "AI Policy" file on Moodle.
- According to your **student ID**, find your dataset in the course shell.

Research Topic:

Please watch the provided video.

Assignment Summary

Part 1: Conceptual Understanding and Model Proposal (Based on Week 2 Material)

1. **Context Setting:**
 - You're an analyst in an imaginary bank.
 - Focus: **Customer churn prediction.**
2. **Model Proposal:**
 - Suggest models that could predict customer churn (this is not about claim prediction but specific to banking).
 - Ensure these models are suitable based on the bank's business processes and capacity.
3. **Data & Capacity Requirements:**
 - Discuss what kind of data would be necessary.
 - Consider the bank's capacity to handle data and analytics.
4. **Raw Data Sources:**
 - Enumerate possible raw data sources available in a typical bank that could contribute to an Analytic Base Table (ABT).
5. **Feature Engineering:**
 - Create a feature list derived from domain concepts and subconcepts.
 - Discuss raw and derived features, explaining how the latter are developed (using aggregates, flags, ratios, mapping, etc.).

- These features shouldn't reflect the actual data you have; rather, they're what you consider ideal for the analysis.
6. **Developing ABT:**
 - From the proposed features, suggest what your ABT would look like.
 - Identify descriptive variables and target features, explaining their relevance.
 7. **Explanation and Documentation:**
 - Write this section like a research paper.
 - Explain your process clearly, using figures and tables for better understanding.
 - Focus on making your explanations clear and concise, given the word limit.

Part 2: Practical Analysis (Based on Week 3 Material)

1. **Using Available Data:**
 - Now, consider you have certain data available (as provided in your course).
 - This data will be your ABT for practical analysis.
2. **Data Analysis:**
 - Develop comprehensive tables for continuous and categorical features, as discussed in class.
 - Include visual plots to explain your findings.
3. **Handling Missing Values and Outliers:**
 - Identify these issues in your data.
 - Discuss strategies for managing them (e.g., removing entries, imputation, etc.).
 - This section will expand after further instructions in Week 4.
4. **Interpretation of Analysis:**
 - Don't just present data—explain it. For example, what does the mode percent tell you? How does cardinality impact your understanding?
 - Link these insights back to the customer churn context. For instance, if a significant portion of customers at risk of churn are from a particular region, what strategies could the bank employ to address this?
5. **Clarity and Concision:**
 - While you'll be handling a lot of information, remember that your assignment has a word limit.
 - Focus on presenting valuable insights and critical analysis.
 - Ensure the write-up is coherent, engaging, and easily understandable.

Final Notes:

- Part 1 is theoretical and doesn't require actual data manipulation, whereas Part 2 is hands-on.
- I emphasize the importance of clear, concise, yet comprehensive explanations.
- Utilize visuals and tables effectively to enhance your narrative, not just as decorative elements.
- Remember, this assignment is not just testing your technical skills but also your analytical thinking, problem-solving capabilities, and professional communication.

Post-Assignment Steps:

- If any aspect of the assignment is unclear, reach out to me via teams. This proactive approach might not only help you but also your classmates.

Lastly, remember to reference any external material you consult following appropriate academic guidelines to ensure the integrity of your work. Good luck with your assignment!

Best wishes,
Amir

Topics	Max. Grade
Assignment	
Quality of Writing	35
<ul style="list-style-type: none"> • Key elements of assignments are covered. • Clarity and Cohesion: Report is organized, well-written, and easy to understand. Ideas flow smoothly. • Conducts appropriate analyses. • Provides insightful commentary on the findings, demonstrating a clear understanding of the case study. • Follows the appropriate structure/template for the report. • The provided information are supported using relevant and reliable references. 	
Use of Python for Data Analysis	10
<ul style="list-style-type: none"> • Appropriate Python functions and formulas are used effectively for data extraction and analysis. • Clear and concise explanations are provided for each Python task performed. 	
Data Quality Report	15
<ul style="list-style-type: none"> • Developing and explaining the data quality report along with appropriated visualizations. 	
Identifying Data Quality Issues	15
<ul style="list-style-type: none"> • Handling Missing Values & Outliers: Effectively handles missing values and outliers in the data. Justification is provided for the methods used. 	
Creativity and Further Investigation	15
<ul style="list-style-type: none"> • Additional Analysis: Demonstrates creativity by investigating beyond the basic assignment requirements. Asks and answers interesting questions based on the data and the case study. 	
APA 7th	10
<ul style="list-style-type: none"> • Title page is present and properly formatted – separate page (the discussion titles are not required to appear on a separate page). • Reference page is present and properly formatted – separate page. • Citations/reference page follow APA guidelines. • Properly cites ideas from other sources. 	
Note	
<p>Please note that the final score will be reduced by 10 percent if the assignment is not submitted by the due date or if proof of AIgarism is not provided as required. Scoring for each section will be based on the quality and depth of the work in that area, with highest marks reserved for exceptional performance that goes beyond the basic requirements.</p>	