

BIA 5401 Group Case Study #1 (10%)

Group Case Study Analysis Assignment

- This is a self-directed case study to be completed in group-based work.
- Individual work or work in pairs will not be accepted.

Project Guidelines:

The aim of this self-directed case study is to develop a **predictive analytics strategy** for analyzing and extracting insights from **text, web, and social media data** for a company of your selection. The strategy should help address an existing challenge within the organization related to customer engagement, sentiment analysis, or market trend prediction. The following are examples of key questions you may explore during your research; however, the scope of your study and the nature of your questions will depend on the chosen challenge.

Project Requirements:

1. Problem Identification:

- What specific challenge does the company face in leveraging text, web, or social media data?
- What are the key limitations of their current approach, if any?
- How is the problem impacting business operations or customer engagement?

2. Feasibility of Traditional Approaches:

- Could traditional analytical methods address the identified problem?
- What limitations exist in using conventional approaches such as manual sentiment tracking or basic statistical analysis?

3. Proposed Predictive Analytics Solution:

- What machine learning or natural language processing (NLP) techniques will be implemented to analyze the data?
- How will the solution improve accuracy and efficiency in addressing the challenge?
- What tools and technologies (e.g., Python, R, TensorFlow, NLP libraries) will be used?

4. Impact on Organizational Structure:

- How will the proposed solution impact decision-making processes within the organization?
- Will it require restructuring of departments or roles to support data-driven decision-making?
- What are the potential challenges in adopting the new solution?

5. Evaluation and Expected Results:

- How will the predictive analytics model be validated and tested?
- What improvements are expected in customer engagement, sales, or operational efficiency?

Deliverables:

Each group must submit a comprehensive report including the following sections:

1. Cover Page:

- Group members' names, title, course code, section, date, and instructor's name.

2. **Introduction:**
 - Brief introduction of the topic, project objectives, and background.
3. **Executive Summary:**
 - Concise overview of the problem, proposed solution, and expected outcomes.
4. **Table of Contents**
5. **Body of the Report:**
 - Structure might vary depending on the case and issues explored.
 - **Problem Statement:** (Max 1 page)
 - Specific challenge faced by the company.
 - Key limitations of their current approach.
 - Impact on business operations or customer engagement.
 - **Feasibility of Traditional Approaches:** (Max 1 page)
 - Evaluation of conventional methods.
 - Limitations in manual approaches.
 - **Proposed Predictive Analytics Solution:** (Max 2 page)
 - Detailed explanation of the proposed solution with implementation details.
 - Machine learning and NLP techniques.
 - Tools and technologies used.
 - **Impact on Organizational Structure:** (Max 2 pages)
 - Effects on decision-making processes
 - Restructuring needs.
 - Adoption challenges.
 - **Evaluation and Expected Results:** (Max 1 page)
 - Model validation and testing.
 - Expected improvements in engagement, sales, or efficiency.
6. **References:**
 - Proper citations for all sources and tools used.
7. **Appendix:**
 - A detailed Work Breakdown Structure (WBS) indicating tasks assigned to team members, roles, and responsibilities.

Formatting Requirements:

- **Font:** Times New Roman
- **Font Size:** 12 pt
- **Spacing:** 1.5
- **Document Format:** PDF

Grading Criteria:

- Problem Definition and Background (20%)
- Proposed Solution and Methodology (30%)
- Analysis and Insights (20%)
- Practical Implementation Feasibility (15%)
- Presentation and Report Quality (15%)

Good Luck!