MBAS904
Business Analytics for Services and Operations:
Final Assignment

Total marks	100
Weight	60%
Submission Mode	One PDF File (with ALL content) on the subject site on Moodle individually
Due date	Displayed on the subject site on Moodle
Late Penalty	10 marks per day late

Group Analysis Task

Instructions
Each team member should choose one of the following two data scenarios for analysis. Use the data provided and apply the models/tools learned in the lass to process the data.

Scenario 1: Social Network Platform Data Analysis - Top Instagram Influencers
In this Scenario, you are tasked with analyzing the profiles and activities of leading Instagram influencers. Influencers have significant followings due to their expertise, popularity, and engagement with their audience. As a data analyst, you will use this social network data to conduct an analysis and provide strategies and recommendations for the platform or the influencers themselves.

Dataset Overview
The dataset includes 10 attributes, sorted by the influencers' rank based on their followers:

- **rank:** Rank of the Influencer based on the number of followers.
- **channel_info:** Username of the Instagrammer.
- **influence score:** Calculated based on mentions, importance, and popularity.
- **posts:** Number of posts made so far.
- **followers:** Number of followers.
- **avg_likes:** Average likes per post.
- **60_day_eng_rate:** Engagement rate over the last 60 days.
- **new_post_avg_like:** Average likes on new posts.
- **total_likes:** Total likes received on posts.
- **country:** Country or region of origin.

Scenario 2: NYC Restaurants Data - Food Ordering and Delivery
You will analyze data from online food delivery services in New York City. The app facilitates orders from customers, assigns delivery personnel, and tracks the entire process from restaurant order confirmation to food delivery. As a data scientist, you will analyze the data to answer key questions and improve the business by enhancing customer experience.

Dataset Overview
The dataset contains detailed information on food orders:

- **order_id:** Unique ID of the order.
- **customer_id:** ID of the customer.
- **restaurant_name:** Name of the restaurant.
- **cuisine_type:** Type of cuisine ordered.

- **cost:** Cost of the order.
- **day_of_the_week:** Indicates if the order was placed on a weekday or weekend.
- **rating:** Customer rating out of 5.
- **food_preparation_time:** Time taken by the restaurant to prepare the food.
- **delivery_time:** Time taken by the delivery person to deliver the food.

Task Requirements

Once your group has chosen the preferred analytical scenario, you can use any models or data analysis tools learned in your MBAS course to process the data to generate insights and recommendations. After completing the analysis, you are required to deliver

1. **A group presentation (40%).** Present your group's research findings in our last MBAS 904 last class (each group has 10 minutes, including the presentation and Q&A. There is no fixed format for the presentation; you should aim to showcase your novel data discoveries and suggestions).
2. **An analysis report (60%).** Each member of your group needs to submit an analysis report. Please follow the Moodle deadline for submission. The report should include a) the main body of analysis and b) your individual contribution to the team. The suggested structure of the report is
    - UOWD approved cover page
    - Part 1 Analysis Report
        - Introduction (background and analytical question)
        - Literature Review (related/similar works should be reviewed)
        - Methodology and Data (data description, cleaning, and method selection)
        - Data Analysis and Statistical Results (outcomes, performance, findings of your model)
        - Conclusions and Practical Implications
        - References (at least 10 references)
    - Part 2 Your Contribution to the Team (Max 300 words)
        - Ensure all team members contribute equally to the project and presentation.

Please submit your report via Moodle before the deadline! Good luck with your analysis and presentation!

Grading Rubric

Analysis Report

Criteria [out of 100%]	85-100%	75% to 84%	65% to 74%	50% to 64%	0 to 49%
Requirements [50%]	Goes beyond required components	All required components are included	Missing one required component	Missing a few required components.	Missing several required components
Originality [35%]	Shows new, innovative ideas and insights.	Shows a large amount of original thought and critical thinking.	Shows some original thought and critical thinking.	Uses others' ideas (with credit), but there is little critical thinking.	Uses others' ideas but does not give them credit
Appearance [15%]	Professional write-up with excellent structure, formatting, correct grammar, spelling, and punctuation. Makes excellent use of graphics (if applicable)	Good structure and formatting with good grammar, spelling, and punctuation. Makes good use of graphics (if applicable)	Basic structure and formatting with a few errors in grammar, spelling, and punctuation. Makes some use of graphics (if applicable)	Basic structure with several errors in grammar, spelling, and punctuation. Makes minimal use of graphics (if applicable)	Inadequate structure with numerous errors in grammar, spelling, and punctuation. Makes no use of graphics (if applicable)

Group presentation

Criteria	Exceeds Expectations (80-100%)	Meets Expectations (50-80%)	Below Expectations (0-50%)
1. Analyses of given business context to identify issues and define problems (20%)	Identifies and analyses complex interrelationships among the issues or problems in a business scenario	Identifies and analyses issues and problems in a business scenario	Identifies few, if any issues and problems in a business scenario, demonstrating little or no analysis
2. Collects reference material, information and data (20%)	Collects a range of relevant references and other reliable information. Generates data using an appropriate protocol.	Collects some relevant references and information from reliable sources. Generates basic data using a prescribed protocol.	Collects few relevant references. Generates poor quality data due to little understanding or use of prescribed protocol.
3. Analyse (research) data (20%)	Can select and apply appropriate methods to analyse data and create useful information	Can apply prescribed methods to analyse data and create usable information	Does not analyse data using prescribed methods to create usable information
4. Gives examples demonstrating practices, principles or theories to arrive at logical conclusion (20%)	Identifies the key practices, principles and/ or theories applicable to resolving business issues or problems with complex interrelationships. Applies appropriate practices, principles, and theories in a business scenario which demonstrates complex interrelationships between the issues and problems leading to sound resolutions	Identifies the key practices, principles and/ or theories applicable to resolving business issues or problems. Applies appropriate practices, principles, and theories in a business scenario that demonstrates basic solutions to the problems and issues.	Identifies few if any practices, principles and/ or theories applicable to resolving business issues or problems. Demonstrates poor knowledge application thus resulting the issues and problems being incompletely resolved.
5. Innovation (10%)	Develops strong conceptualisations of core ideas leading to creative synthesis of main themes	Some conceptualisation of ideas. Creative synthesis of main themes is limited.	No conceptualisation of ideas. The synthesis of main themes lacks creativity.