

IT300 – Business Intelligence Project

Use Case Proposal

Project Title

Instagram Insights: From BI to predictive Intelligence

1. Industry and Organizational Context

Industry

Digital Marketing and Social Media Analytics

Organizational Context

The organization considered in this project is a **digital marketing and social media analytics team** responsible for managing and optimizing Instagram content performance for brands and content creators.

Instagram is a highly competitive platform where content visibility is influenced by multiple factors such as media type, engagement metrics, discoverability channels, and posting behavior. Marketing teams rely heavily on Instagram Insights data to understand audience engagement, evaluate content effectiveness, and refine strategy.

2. Business Problem

Raw Instagram analytics data is often large, complex, and difficult to interpret without structured analysis tools. As a result, many decisions are still based on intuition rather than data-driven insights.

The organization faces several challenges:

- Performance analysis is limited to basic descriptive statistics
- There is no consolidated view of content performance over time
- It is difficult to identify which content types consistently perform best
- The impact of traffic sources (Explore, Hashtags, Reels Feed, etc.) is unclear
- Decision-makers lack structured insights to optimize content strategy

The core problem is not the lack of data, but the **lack of structured intelligence** that converts historical performance data into meaningful insights.

3. Business Objectives

This project aims to address this challenge by designing a **Business Intelligence (BI) solution** that transforms raw Instagram analytics into **clear, actionable insights** through dashboards and KPIs.

The main objectives of this BI project are:

- Analyze historical Instagram performance using descriptive analytics
- Identify trends and patterns in engagement and visibility
- Compare performance across media types (Photos, Videos, Reels, Carousels)
- Understand how reach, impressions, and traffic sources influence engagement
- Support data-driven decisions for content strategy optimization.

4. Analytical Questions

Descriptive & Diagnostic Analytics:

1. How has total engagement evolved over the last 12 months?
2. Which media types generate the highest engagement rates?
3. How do likes, comments, shares, and saves contribute to total engagement?
4. What is the relationship between reach and impressions?
5. Which traffic sources drive the highest discoverability?
6. How does engagement vary by day of the week and posting time?
7. Do longer captions correlate with higher engagement?
8. How does hashtag count influence reach and impressions?
9. Which posts achieve high reach but low engagement?
10. What patterns distinguish high-performing posts from low-performing ones?

Predictive analytics:

11. Can the engagement rate of a post be **predicted** based on historical metrics?
12. Can Instagram posts be **segmented into performance groups** (high, medium, low engagement)?

5. Key Performance Indicators (KPIs)

The BI solution will track the following KPIs:

1. Total Engagement
2. Engagement Rate
3. Average Engagement per Post
4. Total Reach
5. Total Impressions
6. Engagement Growth Rate (Month-over-Month)
7. High-Engagement Post Ratio
8. Average Engagement by Media Type