

Agentic Business Profit Intelligence

User Manual A Step-by-Step Guide to a AI-Powered Business Analysis

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1 Introduction

Welcome to the Agentic Business Profit Intelligence dashboard! This tool is designed to bridge the gap between raw business data and actionable insights. By leveraging artificial intelligence, this application automates the complex process of data analysis, predictive modeling, and insight generation.

This manual will guide you through each feature of the dashboard, enabling you to transform your CSV data into a comprehensive business report with just a few clicks.

2 Getting Started: Data Preparation

Before you begin, you will need a dataset saved in the Comma-Separated Values (CSV) format. For best results, ensure your data meets the following criteria:

- **Clean Data:** The dataset should be as clean as possible. While the tool can handle some missing values, a well-maintained dataset will yield more accurate results.
- **Clear Headers:** The first row of your CSV file should contain clear, descriptive headers for each column.
- **Target Variable:** Your dataset should contain a clear target variable that you want to analyze, such as "Profit," "Sales," or "Revenue."

3 Step-by-Step Guide

This section provides a detailed walkthrough of the dashboard's workflow.

3.1 Step 1: Uploading Your Dataset

The first step is to upload your prepared CSV file.

1. Launch the application. You will see the main dashboard interface.
2. Locate the file uploader widget labeled **"Upload your dataset (CSV)"**.
3. Click the **"Browse files"** button and select your CSV file from your computer.
4. Once uploaded, a success message will appear, and a preview of the first few rows of your data will be displayed on the dashboard. This allows you to quickly verify that the correct file has been loaded.

3.2 Step 2: Generate a Data Profiling Report

This is an optional but highly recommended step to understand the health and structure of your data.

1. Click the **"Generate Data Profiling Report"** button.
2. The system will perform an in-depth analysis of your dataset. This may take a few moments.
3. Once complete, a comprehensive report will be displayed directly within the dashboard. This report includes:

- An overview of variables and data types.
- Analysis of missing values.
- Correlations between different variables.
- Descriptive statistics (mean, median, etc.).

3.3 Step 3: Run the Full AI Analysis

This is the core function of the application, where the AI pipeline is executed.

1. Click the **"Run Full AI Analysis"** button.
2. A spinner will appear, indicating that the analysis is in progress. The system is now performing several actions in the background:
 - Data preprocessing and cleaning.
 - Training a machine learning model to predict your target variable.
 - Identifying the key features that influence the outcome.
 - Using a large language model to interpret the results and generate plain-English insights.
 - Creating visualizations to support the findings.
3. When the pipeline is complete, the results will be displayed on the dashboard.

3.4 Step 4: Understanding the Results

The analysis output is divided into three main sections:

- **Model Metrics:** This section provides key performance indicators for the trained machine learning model, such as the R^2 score, which indicates how well the model's predictions match the actual data. It also lists the most influential features (e.g., "Marketing Spend," "Region") that drive the business outcome.
- **AI-Generated Insights:** Here you will find a narrative summary explaining what the data and model results mean in a business context. This text is generated by an AI agent to be clear, concise, and actionable.
- **Visualizations:** This section displays charts and graphs (e.g., bar charts of feature importance, scatter plots) that visually represent the key findings from the analysis.

3.5 Step 5: Generate and Download Your Report

After reviewing the results on the dashboard, you can generate a portable PDF report.

1. Scroll down to the bottom of the results section.
2. Click the **"Generate AI Business Report (PDF)"** button.
3. The system will compile the key insights and visualizations into a professional report.
4. A download button labeled **"Download AI Business Report (PDF)"** will appear. Click it to save the report to your computer.

4 Troubleshooting

Issue	Solution
Error during pipeline execution	This can happen if the dataset has unexpected formatting or contains too many errors. Try cleaning your CSV file based on the feedback from the Data Profiling Report and re-uploading. Ensure there are no empty columns or rows that could interfere with the analysis.
File uploader not accepting file	Ensure your file has a <code>.csv</code> extension and is properly formatted. The application is specifically designed to work with CSV files.