**Project Documentation: Customer Behavior Analysis Dashboard**

**1. Project Overview** **Objective:** The objective of this project is to develop an interactive dashboard for analyzing customer behavior, including retention rates, purchasing trends, and product preferences. This will help the client make data-driven decisions to improve marketing strategies and customer engagement.

**Scope:**

* Data collection from sales records, customer feedback, and online interactions.
* Data cleaning and transformation for accurate analysis.
* Development of a Power BI and SQL.
* Integration of predictive analytics for forecasting customer trends.
* Weekly progress updates and final report submission.

**Deliverables:**

* Cleaned and structured dataset.
* Interactive dashboards visualizing key metrics.
* A final analytical report with strategic recommendations.

**2. Project Timeline**

| **Phase** | **Tasks** | **Timeline** |
| --- | --- | --- |
| Data Collection | Gather sales and customer data | Week 1 |
| Data Cleaning | Process and structure the dataset | Week 2 |
| Dashboard Design | Create visualizations and reports | Week 3 |
| Analysis & Insights | Perform trend and predictive analysis | Week 4 |
| Final Review | Submit reports and dashboards | Week 5 |

**3. Technical Details** **Tools Used:**

* **Power BI & Tableau** (Data visualization)
* **SQL & Python (Pandas, NumPy)** (Data processing and predictive analysis)
* **Excel** (Data cleaning and preprocessing)

**Data Sources:**

* Customer purchase history
* Website and social media interactions

**Methodology:**

* **Descriptive Analytics:** Identifying trends in customer purchases and retention rates.
* **Predictive Modeling:** Using machine learning techniques to forecast future customer behavior.
* **Segmentation Analysis:** Categorizing customers based on buying patterns and demographics.

**4. Final Deliverables**

* **Interactive Power BI Dashboard** (Real-time insights on customer behavior)
* **Final Analytical Report** (Key findings and recommendations)
* **CSV Datasets & Documentation** (Cleaned data for future use)
* **User Training Guide** (Instructions on using the dashboard)

**Conclusion:** As a Senior Workforce Analyst and Web Developer with expertise in **data analysis, visualization, and process optimization**, I successfully developed this dashboard to enhance customer insights. My skills in **SQL, Python, Power BI, and CRM integration** ensured an efficient and data-driven approach. This project enables the client to track customer engagement, optimize marketing efforts, and make informed decisions, reinforcing my ability to bridge data and business strategy effectively.