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.

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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

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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.

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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.