Process Overview –

This report presents a comprehensive analysis of AdventureWorks' sales performance and customer engagement using an interactive Power BI dashboard. The primary objective is to identify key trends, high-performing areas, and potential opportunities for growth and optimization, providing actionable insights for business stakeholders.

Data Acquisition (Power Query):

- Extracted data from various sources (as learned in the Udemy course).
- Connected to different data connectors.

Data Transformation and Cleaning (Power Query):

- Utilized query editing tools.
- Performed table transformations (e.g., filtering, sorting, renaming).
- Applied text, numerical, date & time tools.
- Created rolling calendars, index & conditional columns.
- Grouped and aggregated data.
- Pivoted and unpivoted data.
- Merged and appended queries

Data Modeling (Power BI):

- Applied database normalization principles
- Identified fact and dimension tables
- Defined primary and foreign keys
- Implemented a star (or potentially snowflake) schema
- Established active and inactive relationships
- Defined relationship cardinality
- Understood and managed filter context and flow
- Potentially utilized bi-directional filters
- Designed the model layout
- Set data formats and categories
- Created hierarchies

Calculations and Measures (DAX):

- Utilized DAX for creating calculated columns and measures.
- Understood row and filter context
- Applied filter functions (e.g., CALCULATE, FILTER, ALL).
- Used iterator (X) functions
- Potentially implemented time intelligence patterns
- Used math & stats, conditional & logical (including SWITCH), text, and date & time functions
- Utilized the RELATED function

Dashboard Creation and Visualization (Power BI):

- Followed a dashboard design framework
- Utilized various visuals: cards & KPIs, line charts, trend lines & forecasts, table & matrix visuals, map visuals
- Applied on-object formatting.
- Implemented conditional formatting
- Used Top N filtering
- Enabled drill up, drill down
- Incorporated report slicers & interactions
- Created bookmarks & page navigation
- Designed custom tooltips

Insight Generation and Reporting:

- Analyzed the dashboard visuals to identify key trends and patterns.
- Formulated insights based on the data.
- Structured the findings into a professional report document.