**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.