HIGH LEVEL DESIGN

Amazon Sales Data Analysis

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DOCUMENT CONTROL

Change Record:

VERSION	DATE	AUTHOR	COMMENTS
0.1	3/06/2023	Hiten Verma	Introduction and problem statement defined
0.2	12/08/2023	Hiten Verma	Design details and KPI updated

Contents

ABSTRACT

A sales report, also known as a sales analysis report, is a document that summarizes a business's sales activities. This report typically includes information on sales volume, leads, new accounts, revenue and costs for a given period. It may also analyse this information along each step of the sales funnel and indicate your sales team's performance (or any gaps therein).

These reports might help your company modify its sales approach and other growth initiatives. They can provide insights into sales methodology successes, predictions of future sales data, analyses of performance compared to previous periods, and greater understanding of customer motivations.

This work discuss the Detailed analysis of the Sales of Amazon for the year of 2017 to Year 2019 by using the Powerbi tool which is capable of showcasing key insights of the sales from the Given data.

1.INTRODUCTION

1.1 Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all of the design aspects and define them in detail
- Describe the user interface being implemented
- Describe the hardware and software interfaces
- Describe the performance requirements
- Include design features and the architecture of the project
- List and describe the non-functional attributes like:
    - Security
    - Reliability
    - Maintainability
    - Portability
    - Reusability
    - Application compatibility
    - Resource utilization
    - Serviceability

1.2 SCOPE

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system.

2.GENERAL DESCRIPTION:

2.1 PRODUCTION PERSPECTIVE AND PROBLEM STATEMENT:

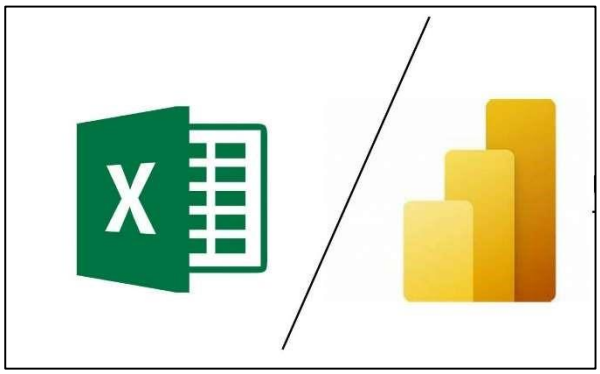
Sales management has gained importance to meet increasing competition and the need for improved methods of distribution to reduce cost and to increase profits. Sales management today is the most important function in a commercial and business enterprise.

Do ETL : Extract-Transform-Load some Amazon dataset and find for me Sales-trend -> month wise , year wise , yearly month wise.

2.2 TOOLS USED:

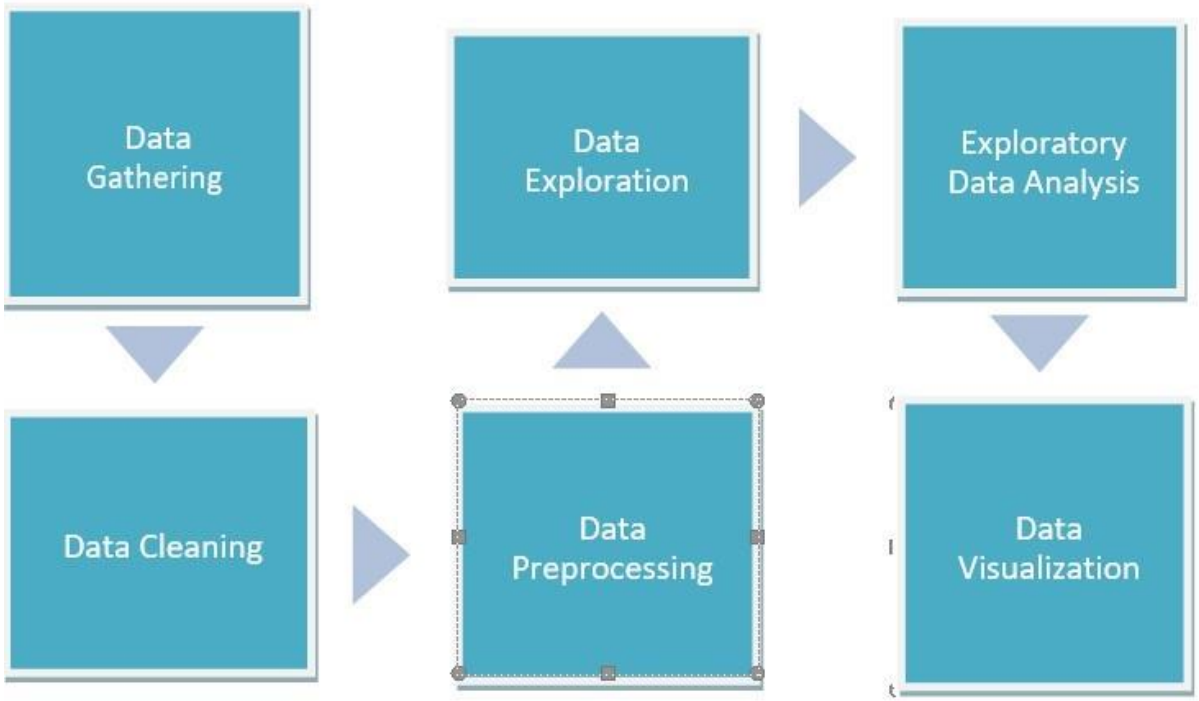
Business Intelligence tools like Excel and Powerbi are Used.

Powerbi Used to build whole Framework



3.DESIGN DETAILS:

3.1 Process Architecture:



3.2 OPTIMIZATION

Your data strategy drives performance

- Minimize the number of fields
- Minimize the number of records
- Optimize extracts to speed up future queries by materializing calculations, removing columns and the use of accelerated views

Reduce the marks (data points) in your view

- Practice guided analytics. There's no need to fit everything you plan to show in a single view. Compile related views and connect them with action filters to travel from overview to highly-granular views at the speed of thought.
- Remove unneeded dimensions from the detail shelf.
- Explore. Try displaying your data in different types of views.

Limit your filters by number and type

- Reduce the number of filters in use. Excessive filters on a view will create a more complex query, which takes longer to return results. Double-check your filters and remove any that aren't necessary.
- Use an include filter. Exclude filters load the entire domain of a dimension, while include filters do not. An include filter runs much faster than an exclude filter, especially for dimensions with many members.
- Use a continuous date filter. Continuous date filters (relative and range-of-date filters) can take advantage of the indexing properties in your database and are faster than discrete date filters.
- Use Boolean or numeric filters. Computers process integers and Booleans (t/f) much faster than strings.
- Use parameters and action filters. These reduce the query load (and work across data sources).

Optimize and materialize your calculations

- Perform calculations in the database • Reduce the number of nested calculations.
- Reduce the granularity of LOD or table calculations in the view. The more granular the calculation, the longer it takes. o LODs - Look at the number of unique dimension members in the calculation.
    o Table Calculations - the more marks in the view, the longer it will take to calculate.
- Where possible, use MIN or MAX instead of AVG. AVG requires more processing than MIN or MAX. Often rows will be duplicated and display the same result with MIN, MAX, or AVG.
- Make groups with calculations. Like include filters, calculated groups load only named members of the domain, whereas Tableau's group function loads the entire domain.

4.KPI:

Dashboards will be implemented to display and indicate certain KPIs and relevant indicators for the disease.

4.1.1 KPIs (Key Performance Indicator)

Key indicators displaying a summary of the Housing Price and its relationship with different Metrics

1. Total Sales by Month.
2. Count of invoice number by delivery
3. Count of item by Unit of Measurement
4. Top 5 item sales

5 Top 5 customer sales
6 Top 5 Sales representative sales 7 Top 5 lines sales.
8 Total Sales VS Total Discount
9 List price VS Sales price
10 Sales quantity VS Delivery
11 Sales margin amount VS Sales amount

5. DEPLOYMENT

The Amazon Sales data analytics project analyzes all the sales records and provides meaningful statistical insights for facilitating better sales management. It provides authentic visualization of all the sales records through dashboards prepared using PowerBI. It defines key metrics responsible for enhancing the quantity and quality of sales and establishes logical and meaningful relationships between various attributes present in Dataset.

When you publish a Power BI Desktop file to the Power BI service, you publish the data in the model to your Power BI workspace. The same is true for any reports you created in Report view. You'll see a new dataset with the same name, and any reports in your Workspace navigator.