AMAZON SALES DATA ANALYSIS

LOW LEVEL DESIGN

A. NOORJAHAN

INDEX

Introduction

1.1 What is Low-Level Design Document?

The goal of the Low-level design document (LLDD) is to give the internal logic design of the actual program code for the Sales Analysis dashboard. LLDD describes the class diagrams with the methods and relations between classes and programs specs. It describes the modules so that the programmer can directly code the program from the document.

1.2 What is Scope?

Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. The process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the data organization may be defined during requirement analysis and then refined during data design work.

1.3 Project Introduction

This is a project about Sales Management. Organizations under the Ecommerce industry seek to attain core competence by creating and sustaining a unique process to collect personal

information about customers and their purchasing trends. The report critically evaluates how service-based organizations - Amazon use Management information systems to attain competitive advantage through efficient management and acquisition of information. The purpose of this project is to analyse Amazon Sales Data to obtain meaningful information. To do that, a Sales dataset is provided, which includes sales amount, list price, cost price, etc. From the given data we find the relation between them and there by made a key metrics

2.Problem Statement

Sales management has gained importance to meet increasing competition and the need for improved distribution methods to reduce cost and increase profits.

Today, sales management 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.

Find key metrics and factors and show the meaningful relationships between attributes.

3.Dataset Information

- **Invoice Date:** Day on which Invoice generated.
- **Discount Amount**: Total discount provided on any item.
- **Sales Amount:** Total Sales Price of an Item after deducting discount amount
- **Sales Margin Amount**: Sales Margin Amount is a difference of Sales Cost Amount & Sales Amount.

- **Sales Cost Amount:** Total Cost Price of any Item.
- **List Price:** Basic Price of an Item as published on the price list.
- **Sales Rep:** A person whose job is to sell products or services for a company.
- **U/M:** Unit of Measure
- **Cust Key:** It is a Unique Number on the Invoice that is used to **reference customers' account**
- **Promised Delivery Date:** Day on which they promised to deliver the item
- **Sales amount based on list Price:** Its is calculated by multiplying the list price and sales quantity
- **Profit %:** It is calculated by dividing the sales margin amount over the sales cost amount

4.Architecture Description

1. Raw Data Collection

The Dataset was taken from INeuron's Provided Project Description Document.

https://docs.google.com/spreadsheets/d/1h3EsPffTLrzpP7sGeyuRnGBXrdJRcXY/edit?usp=sharing&ouid=105519103382 792804653&rtpof=trues=true

2. Data Pre-Processing

Before building any model, it is crucial to perform data pre-processing to feed the correct data to the model to learn and predict. Model performance depends on the quality of data fed to the model to train.

This Process includes

- Handling Null/Missing Values
- Handling Skewed Data
- Outliers Detection and Removal
- Grouping the data on common ground
- User defined function to reduce the noisy data

3. **Data Cleaning**

Data cleaning is the process of fixing or removing incorrect, corrupted, incorrectly formatted, duplicate, or incomplete data within a dataset

- Remove duplicate or irrelevant observations
- Filter unwanted outliers
- Renaming required attributes

4**. Exploratory Data Analysis (EDA)**

Exploratory Data Analysis refers to the critical process of performing initial investigations on data to discover patterns, spot anomalies, test hypotheses and check assumptions with the help of summary statistics and graphical representations.

5.Reporting

Because being a Data Analyst I have designed easy and self-explanatory report because my model will be used by many stakeholders who are not from a technical background.

- High-Level Design Document (HLD)
- Low-Level Design Document (LLD)
- Architecture
- Wireframe
- Detailed Project Report
- PowerPoint Presentation

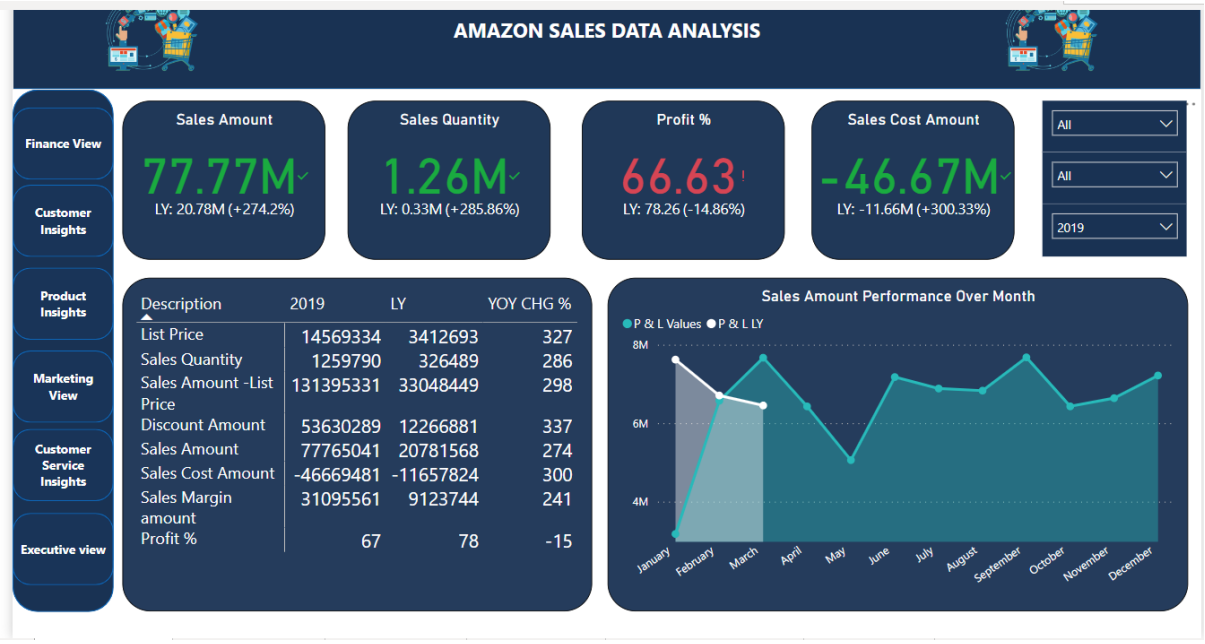
6. Modelling Data

Modelling is the process of analysing the data objects and their relationship to the other objects. It is used to analyse the data requirements that are required for the business processes. The

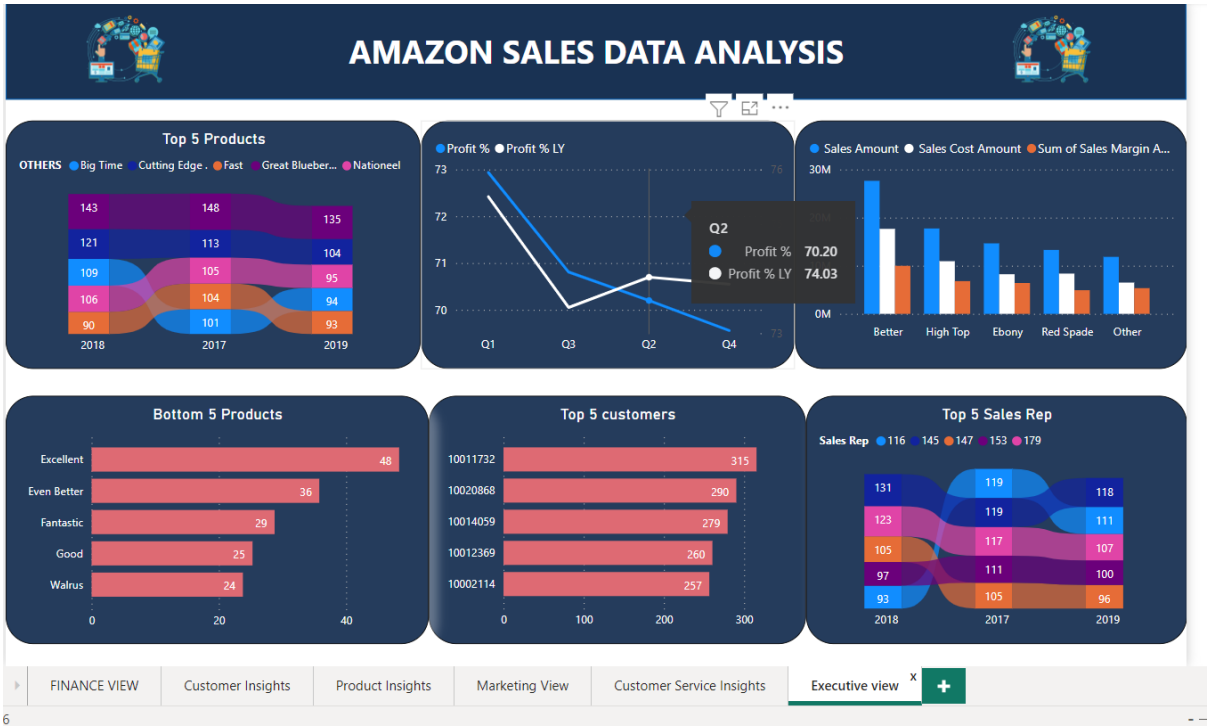
data models are created to store the data in a database. The Data Model's main focus is on what data is needed and how we have to organize data rather than what operations we have to perform.

7. Deployment

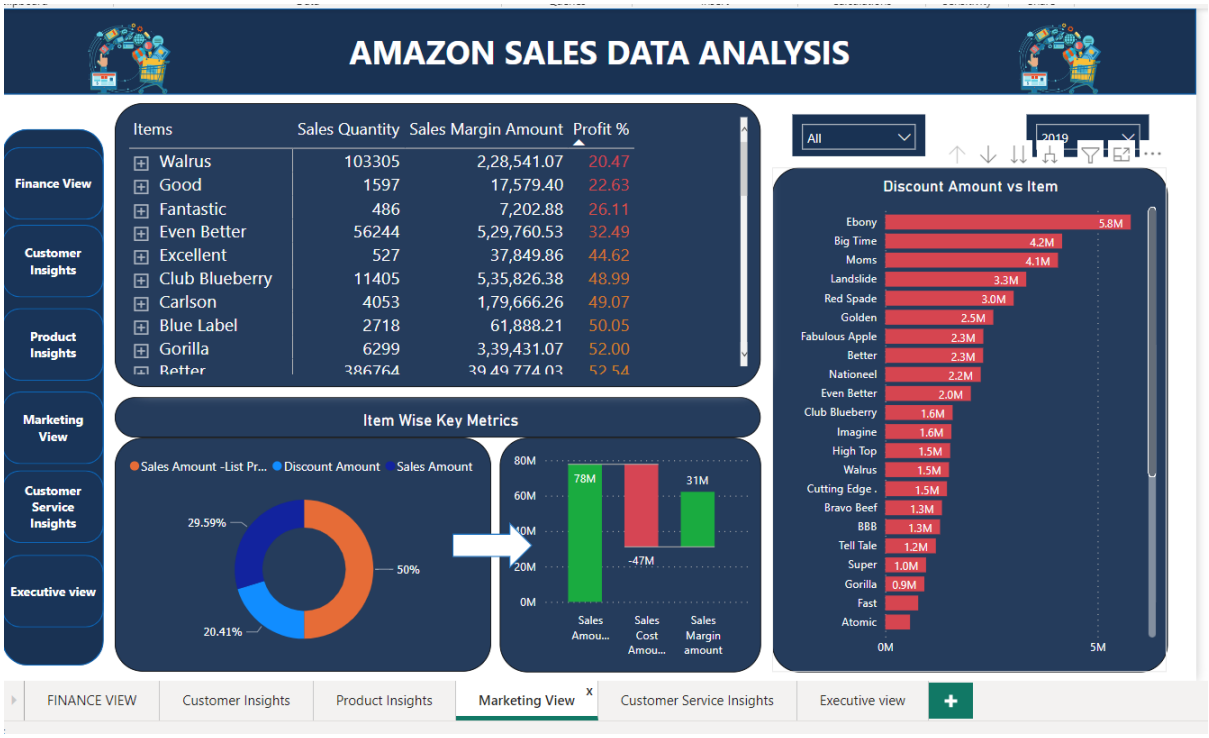
FINANCE VIEW:



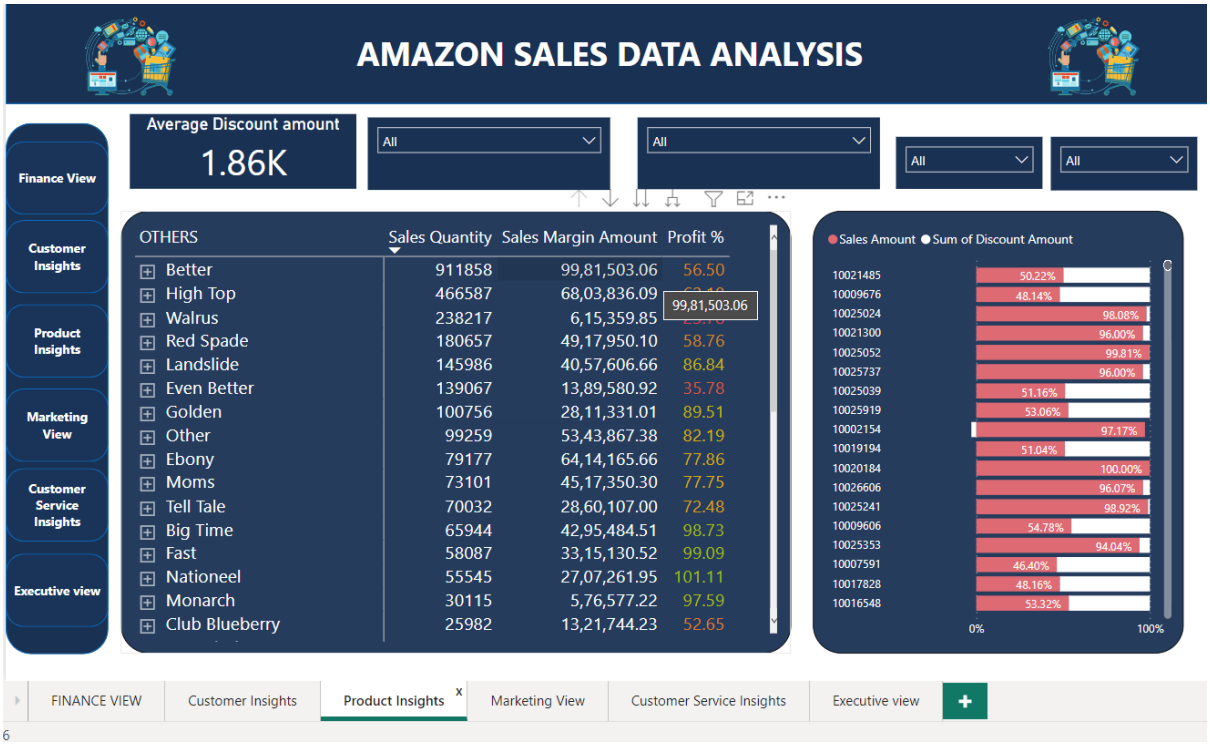
EXECUTIVE VIEW:



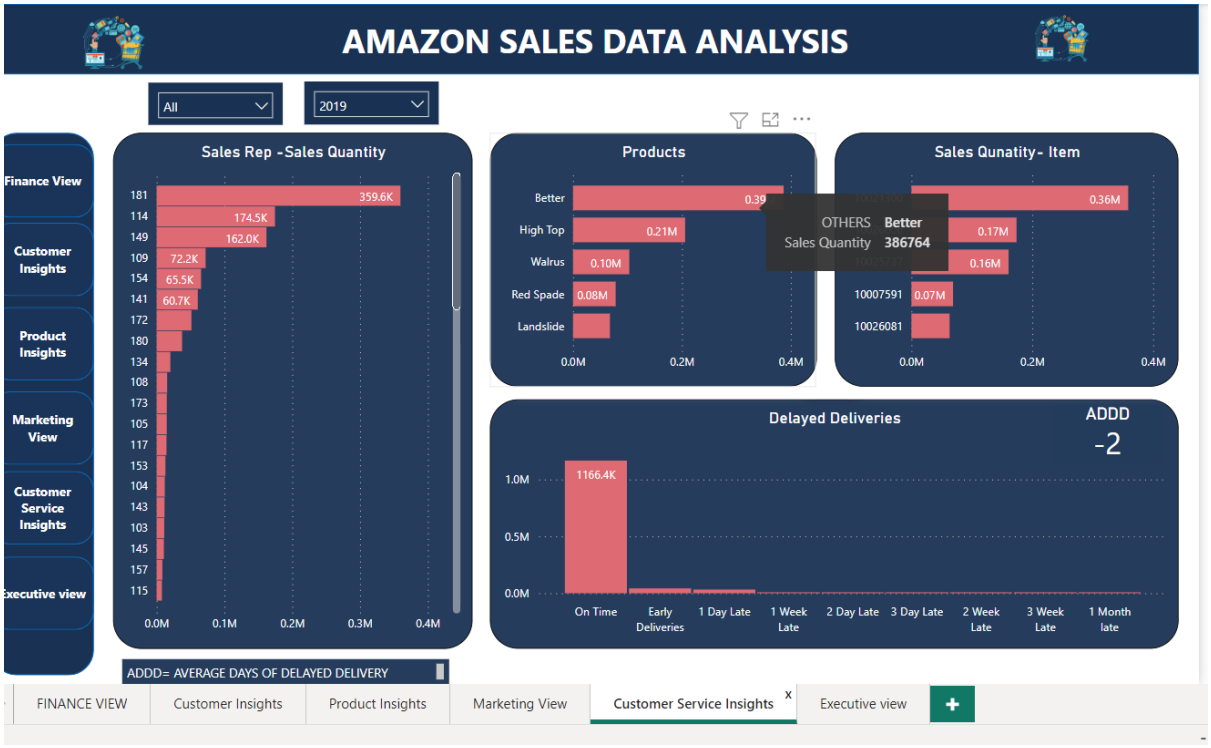
MARKETING VIEW:



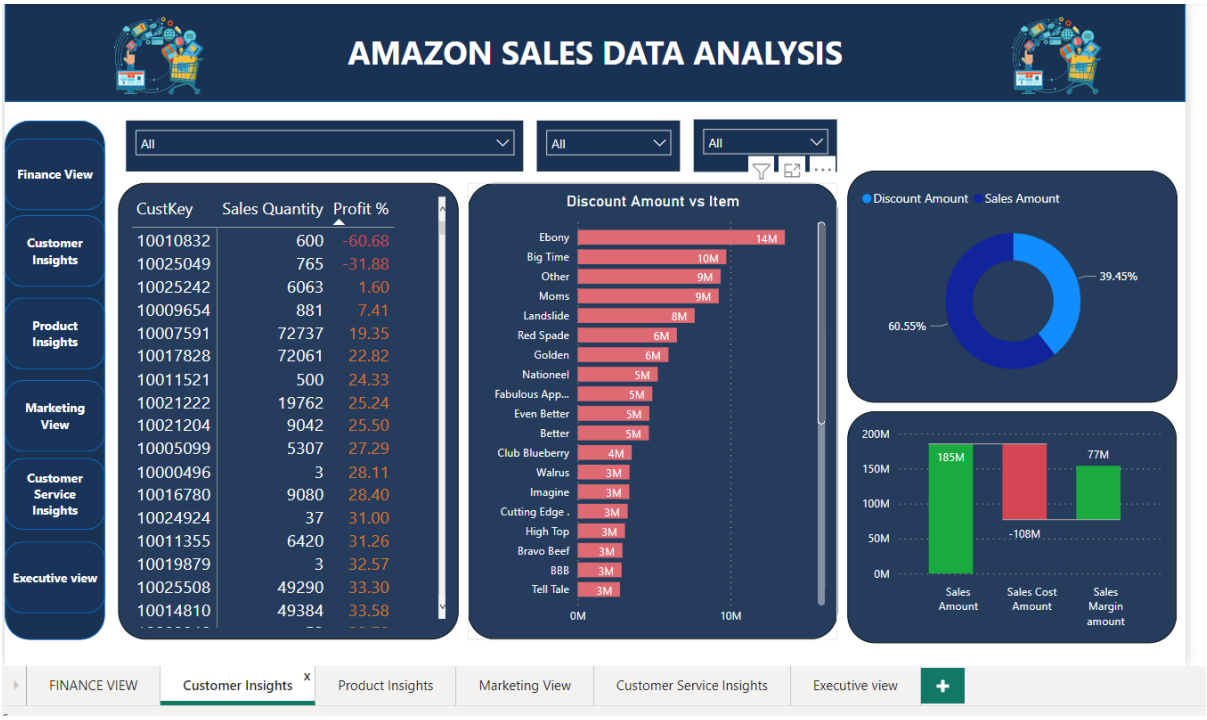
PRODUCT INSIGHTS:



CUSTOMER SERVICE INSIGHTS:



CUSTOMER INSIGHTS:


AMAZON SALES DATA ANALYSIS
Finance View
Customer Insights
Product Insights
Marketing View
Customer Service Insights
Executive view
All
All
All
CustKey Sales Quantity Profit %
10010832 600 -60.68
10025049 765 -31.88
10025242 6063 1.60
10009654 881 7.41
10007591 72737 19.35
10017828 72061 22.82
10011521 500 24.33
10021222 19762 25.24
10021204 9042 25.50
10005099 5307 27.29
10000496 3 28.11
10016780 9080 28.40
10024924 37 31.00
10011355 6420 31.26
10019879 3 32.57
10025508 49290 33.30
10014810 49384 33.58
Discount Amount vs Item
Ebony 14M
Big Time 10M
Other 9M
Moms 9M
Landslide 8M
Red Spade 6M
Golden 6M
Nationeel 5M
Fabulous App... 5M
Even Better 5M
Better 5M
Club Blueberry 4M
Walrus 3M
Imagine 3M
Cutting Edge . 3M
High Top 3M
Bravo Beef 3M
BBB 3M
Tell Tale 3M
0M
10M
Discount Amount
Sales Amount
39.45%
60.55%
200M
150M
100M
50M
0M
185M
-108M
77M
Sales Amount
Sales Cost Amount
Sales Margin amount
FINANCE VIEW
Customer Insights
Product Insights
Marketing View
Customer Service Insights
Executive view