Low Level Design
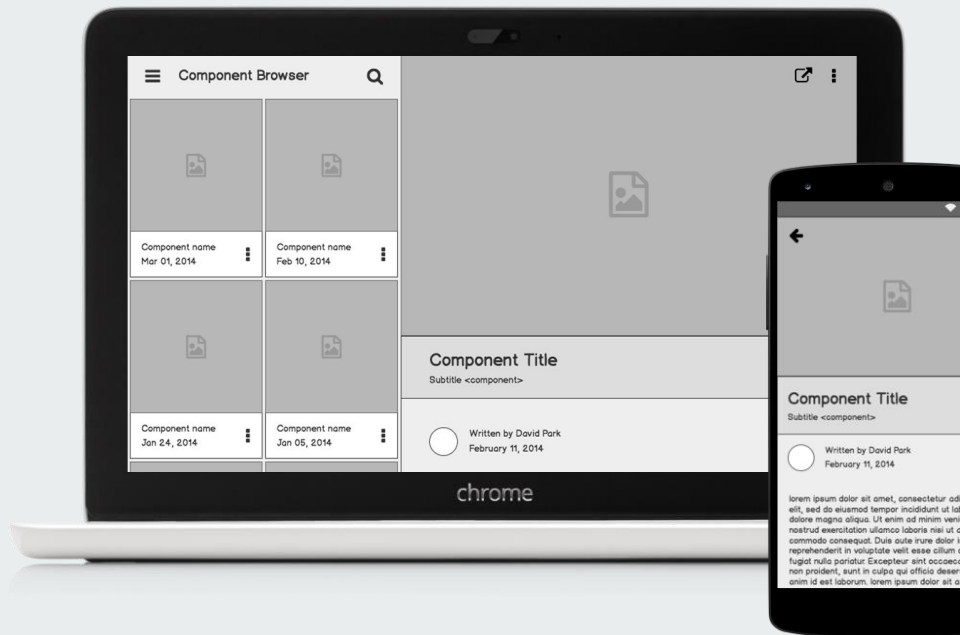
Amazon Sales Data Analysis

Document Overview

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Purpose

To reveal concealed profit and sales patterns, and offer vital insights into the factors influencing business outcomes, enabling stakeholders to make informed decisions.

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.

Project Introduction

This is a project about Sales Management. Organizations under the E-commerce 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 analyze Amazon Sales Data to obtain meaningful information. To do that, a Sales dataset is provided, which includes sales amount, list price, cost price, etc.

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.

Dataset

Invoice Date: Day on which Invoice generated.

Discount Amount: Total discount provided on any item.

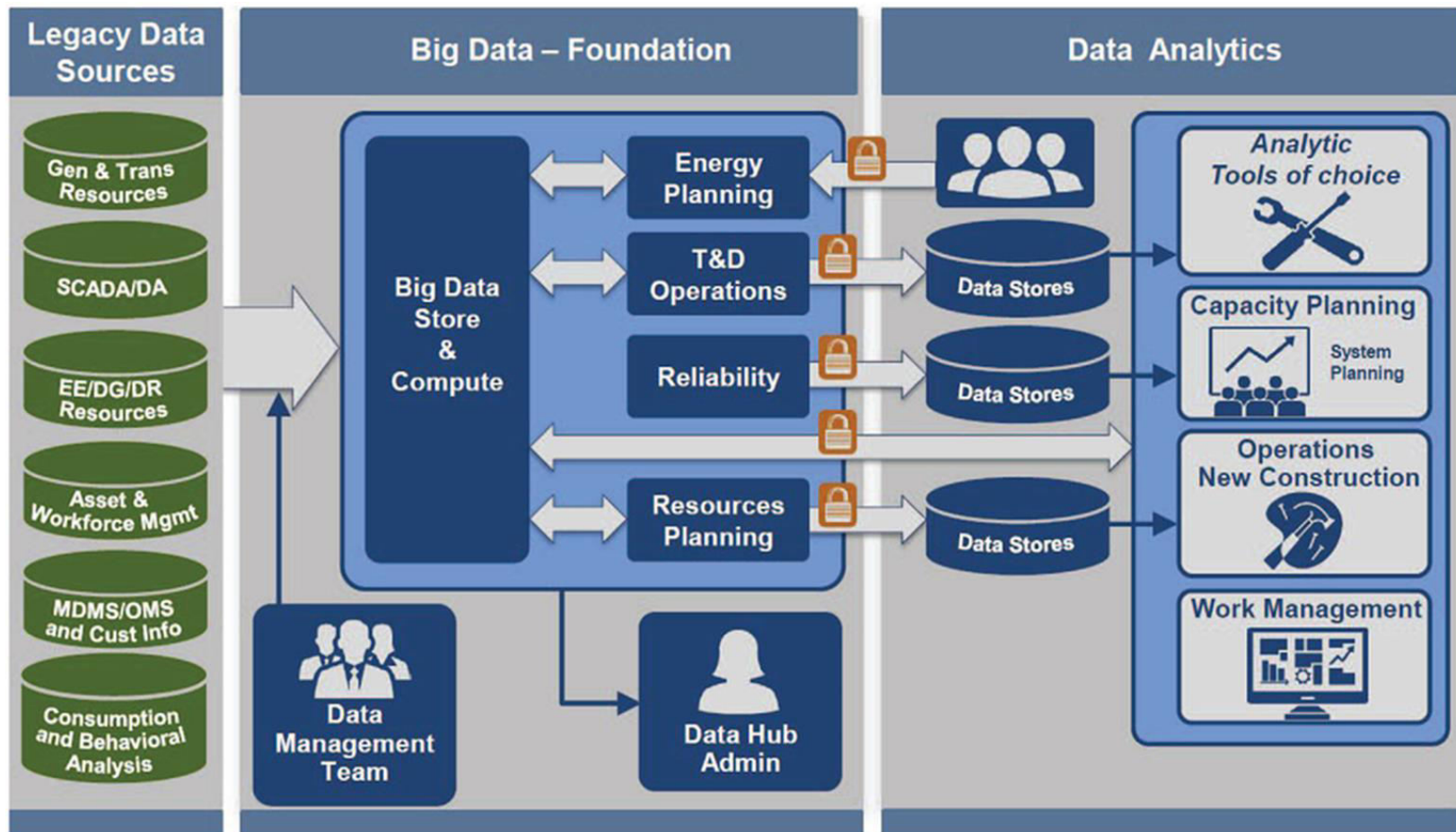**Sales Amount:** Total Sales Price of an Item.

Sales Margin Amount (Profits): Sales Margin Amount is a difference of Sales Cost Amount & Sales Amount.

Sales Cost Amount: Total Cost Price of any Item.

Sales Price: Sales Price of any particular Item.

Architecture

Data Collection

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

https://docs.google.com/spreadsheets/d/1h3EsPf-fTLrzpP7sGeyuRnGBXrdJRcXY/edit?usp=sharing&ouid=105519103382792804653&rtpof=true&sd=true

Data Cleaning

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

a) Remove duplicate or irrelevant observations

b) Filter unwanted outliers

c) Renaming required attributes

Exploratory Data Analysis

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.

Reporting

Reporting is a most important and underrated skill of a data analytics field. Because being a Data Analyst you should be good in the easy and self-explanatory report because your model will be used by many stakeholders who are not from a technical background.

a) High-Level Design Document (HLD)

b) Low-Level Design Document (LLD)

c) Architecture

d) Wireframe

e) Detailed Project Report

Modelling

Data Modelling is the process of analyzing the data objects and their relationship to the other objects. It is used to analyze 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.
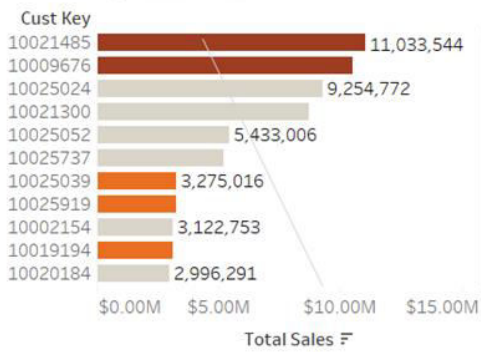
Deployment

Amazon Sales Dashboard

Hover over Profit Over Sales & Profit By Customer for More Information
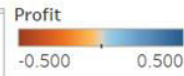
Profit Over Sales

The Customer **10006919** Has a Highest Profit **14,122** With Total Sales of **$0.56M**

Profit By Customer

Cust Key	Total Sales
10021485	11,033,544
10009676	
10025024	9,254,772
10021300	
10025052	5,433,006
10025737	
10025039	3,275,016
10025919	
10002154	3,122,753
10019194	
10020184	2,996,291

Profit By Items

Item	Total Sales
Better Large Canned..	15,454,172
High Top Dried Mush..	
Red Spade Pimento ..	5,711,486
Better Canned Tuna ..	
Ebony Squash	5,380
Big Time Frozen Che..	
Fast Mini Donuts	5,0
Discover Manicotti	
Better Fancy Canned..	4,7
Landslide White Sug..	
Moms Turkey Hot Do..	3,771,487

The Item **Better Large Canned Shrimp** Has a Total Sales of **$11.59M** With a Neagative Profit

Year of Invoice Date
All

Profit
-0.500   0.500

Profit
-6M   1M

KPI
O Loss
□ Profit

Total Discount
· 0
○ 100,000
○ 200,000
○ 343,533

Year of Invoice Date..
■ 2017, Profit
■ 2018, Profit
■ 2019, Profit

Profit Over Year & Months

September Month Shows a Lowest Peak With a tive Negative Profit of ($4.00M)

January Month Shows a Highest Peak With a Negative Profit of ($4.00M)

January Month Shows a Highest Peak With a Negative Profit of ($1.76M)

Sales Over Year & Months

September Month Shows a Highest Peak With a Total Sales: $7.69M

January Month Shows a Highest Peak With a Total Sales: $7.42M