

# **High Level Design (HLD)**

## Amazon Sales Data Analysis

Areeb Younus & Samreen Fathima

# Document Version Control

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Amazon is a global e-commerce brand establishing businesses across the world. The stakeholders are looking for a report on Sales trend for the past three years.	
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## Abstract

To boost sales and earnings, Amazon Sales Management is always searching for new strategies. To better understand market behaviour, management has requested the creation of sales reports on yearly and monthly sales trends. They are searching for connections between various variables that have an immediate impact on sales. It is our responsibility as a data analyst, to take data from the previous three years, clean it up, study it, and visualise it to discover any potential insights that might influence future sales. The requirement of the hour is a detailed report with crucial and unambiguous images that convey the tale and provide insights.

# 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. This document is also intended to help detect contradictions prior to coding/visualizations, and can be used as a reference manual to understand the thought process behind creating visuals.

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

## 1.2 Scope

The HLD documentation presents the structure of the system, such as the data 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.

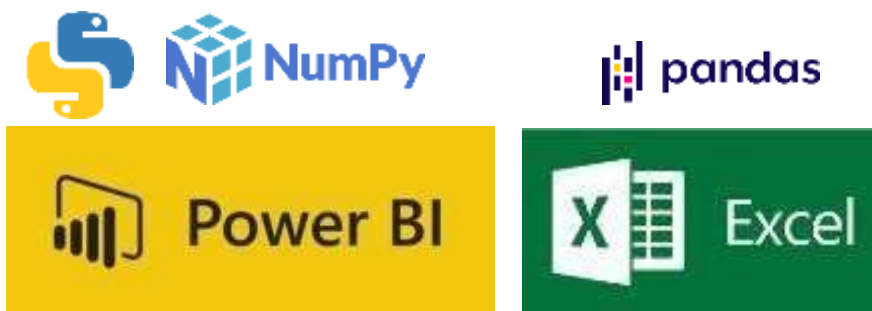
## 2 General Description

### 2.1 Business Perspective & Problem Statement

Amazon is a well-known e-commerce company with operations all over the world. To achieve a competitive edge, the stakeholders are trying to analyse consumer behaviour and sales trends. The project's goal is to compile a report on the year-over-year and month-over-month trends in sales in order to identify the variables that directly influence sales. The goal of this project is to use a business intelligence tool, such as Power BI, to visualise sales data.

### 2.2 Tools used

Business Intelligence tools and libraries works such as Numpy, Pandas, Excel and Power BI are used to build the whole report.



## 3 Design Details

### 3.1 Functional Architecture

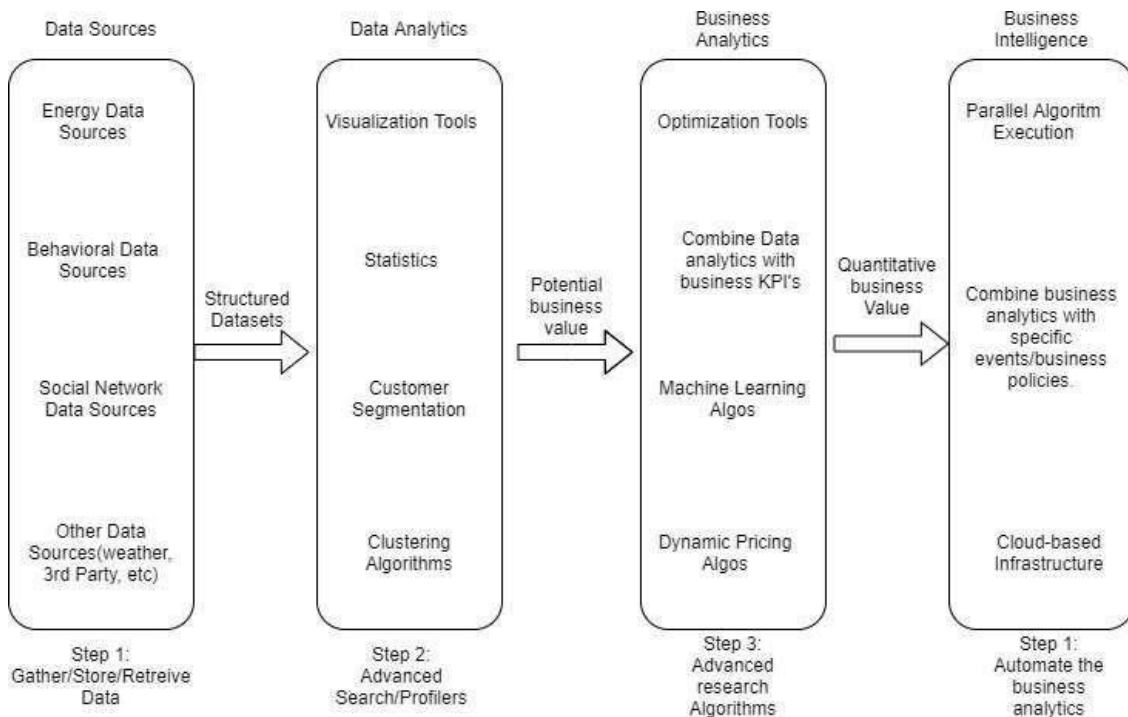


Figure 1: Functional Architecture of Business Intelligence

### How BI Really Works



## 3.2 Optimization

### Your data strategy drives insights

- Cleaning Data by imputing missing values or removing missing values.
- Changing and converting the column data types.
- Creating measures to create values for simple card views. Optimize space to ensure every chart or visuals is fitting and telling the same story.

### 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 page. Compile related visuals and connect them with action filters to travel from overview to highly-granular views at the speed of thought.
- Creating charts that explore relationship between different variables in the dataset.

## 4 KPIs

Reports will be created to display and indicate certain KPIs and relevant indicators for sales.



### 4.1 KPIs (Key Performance Indicators)

Key performance indicators display a summary of the Sales and its relationship with different variables.

1. Impact of Time of the year on Sales.
2. Impact of Discount Amount on Sales
3. Top Items ordered and their list price
4. Top Performing Sales Representatives who are bringing cash into the company
5. Items who have higher margin amount
6. Influence of discounts on sales quantity and number of orders.



## 5 Deployment

For your dashboard to be saved and published on the Power BI database, Power BI Desktop requires a professional email address. To publish your work on your workstation, you must log into your account. Send invitations to your coworkers and request that they participate in or contribute to the report. Another choice for sharing your work with other contacts and decision-makers is to save the Power BI file to your local machine and post it on Github.