iNeuron

LOW LEVEL DESIGN

BUDGET SALES ANALYSIS

HARSH PIMPALKAR

Written By	Harsh Pimpalkar
Document Version	1.0
Last Revised Date	

DOCUMENT CONTROL

Version	Date	Author	Comments

REVIEWS

Version	Date	Author	Comments

APPROVAL STATUS

Version	Review Date	Reviewed By	Approved By	Comments

TABLE OF CONTENTS

INTRODUCTION

WHY THIS 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 Budget Analysis dashboard. LLDD describes the class diagrams with the methods and relations between classes and program specs. It describes the modules so that the programmer can directly code the program from the document.

SCOPE

Low level design(LLD) is a component-level designprocess that followsa step-by-step refinement process. The process can be used for designingdata structures, requiredsoftware 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

The growth of manufacturing and reselling business in most populated cities are increasing and market competitions are also high. The dataset is one of the historical sales of a company named Adventure Works which has records for 3 years. Good data-driven systems for analyzing sales can improve the performance of the company and generate more ROI for the stakeholders.

PROBLEM STATEMENT

Our "Domain Sale" process is structured to help potential buyers purchase the domain they want immediately without the hassle of contacting the seller directly.

A seller lists a domain for sale at a specific price in our Marketplace. An interested buyer sees this domain for sale and decides to buy it.

DATASET INFORMATION

- **CUSTOMERKEY:** PRIMARY KEY FOR CUSTOMER DATASET
- **BIRTHDATE:** BIRTHDATE OF THE CUSTOMER
- **MARITALSTATUS:** M- MARRIED / S - SINGLE
- **GENDER:** M – MALE / F – FEMALE
- **TOTALCHILDREN:** TOTAL NUMBER OF CHILDREN
- **NUMBERCHILDRENATHOME:** NUMBER OF CHILDREN STAYING WITH THEIR PARENTS
- **EDUCATION:** EDUCATION QUALIFICATION
- **OCCUPATION:** PRESENT OCCUPATION
- **HOUSEOWNERFLAG:** 1– OWNS HOUSE / 0- DOESN'T HAVE A PERMANENT ADDRESS
- **NUMBERCARSOWNED:** NUMBER OF CARS OWNED BY THE CUSTOMER
- **DATEFIRSTPURCHASE:** FIRST DATE OF THE ORDER BY THE CUSTOMER
- **PRODUCTKEY:** PRIMARY KEY FOR THE PRODUCT DATASET
- **PRODUCTNAME:** PRODUCT NAME WITH THE COLOR OF THE PRODUCT
- **SUBCATEGORY:** SUBCATEGORY NAME OF THE PRODUCT
- **CATEGORY:** CATEGORY NAME OF THE PRODUCT
- **LISTPRICE:** THE SALE PRICE OF THE PRODUCT
- **DAYSTOMANUFACTURE:** DAYS TO MANUFACTURE THE PRODUCT AFTER RECEIVING THE ORDER

DATASET INFORMATION

- **PRODUCTLINE:** PRODUCT LINE NAME
- **MODELNAME:** MODEL NAME OF THE PRODUCT
- **PRODUCTDESCRIPTION:** MORE DETAILS ABOUT THE PRODUCT
- **SALESTERRITORYKEY:** PRIMARY KEY OF THE TERRITORY DATASET
- **REGION:** REGION NAME OF THE ORDER
- **COUNTRY:** COUNTRY NAME OF THE ORDER
- **ORDERDATE:** DATE OF THE ORDER RECEIVED
- **SHIPDATE:** DATE WHEN THE ORDER LEFT THE FACTORY FOR EXPORT
- **SALESORDERNUMBER:** INVOICE NUMBER OF THE ORDER
- **ORDERQUANTITY:** NUMBER OF QUANTITIES ORDERED FOR A PRODUCT
- **UNITPRICE:** PER UNIT SALE PRICE OF THE PRODUCT
- **TOTALPRODUCTCOST:** COST OF THE PRODUCT
- **SALESAMOUNT:** TOTAL SALES PRICE OF THE PRODUCT
- **TAXAMT:** TAX COLLECTED FOR THE PRODUCT SOLD

ARCHITECTURE
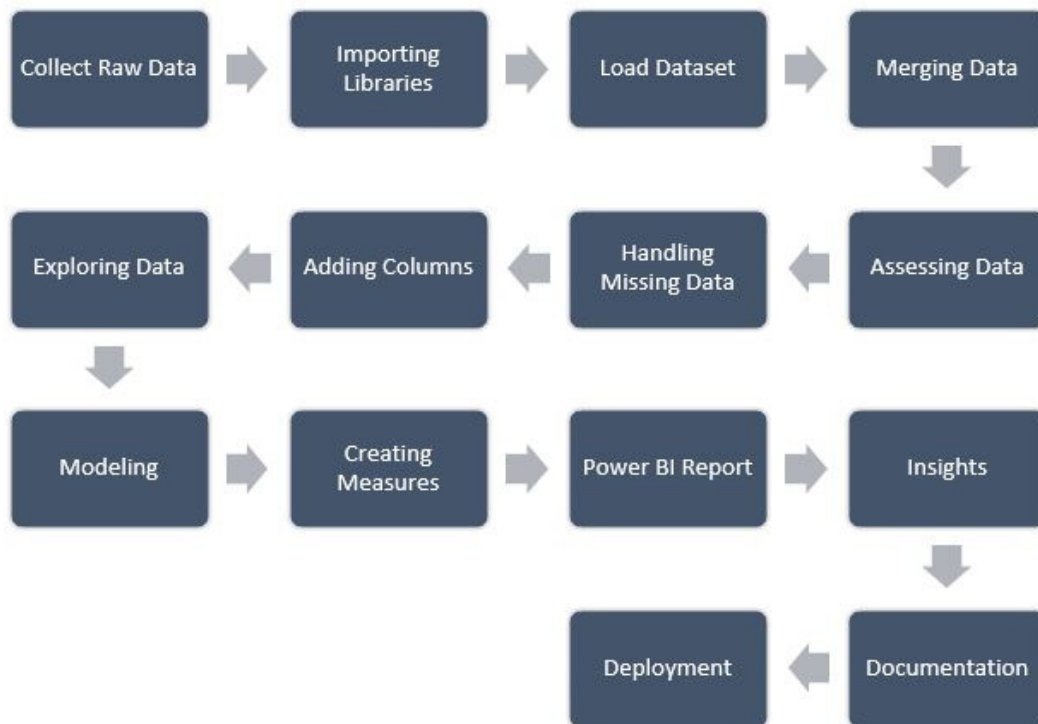
Collect Raw Data - This step involves extracting the data from different sources relevant to the problem statement or obtaining data from the client

Data Wrangling – Contains following steps gathering data, assessing data, handling missing data and adding columns
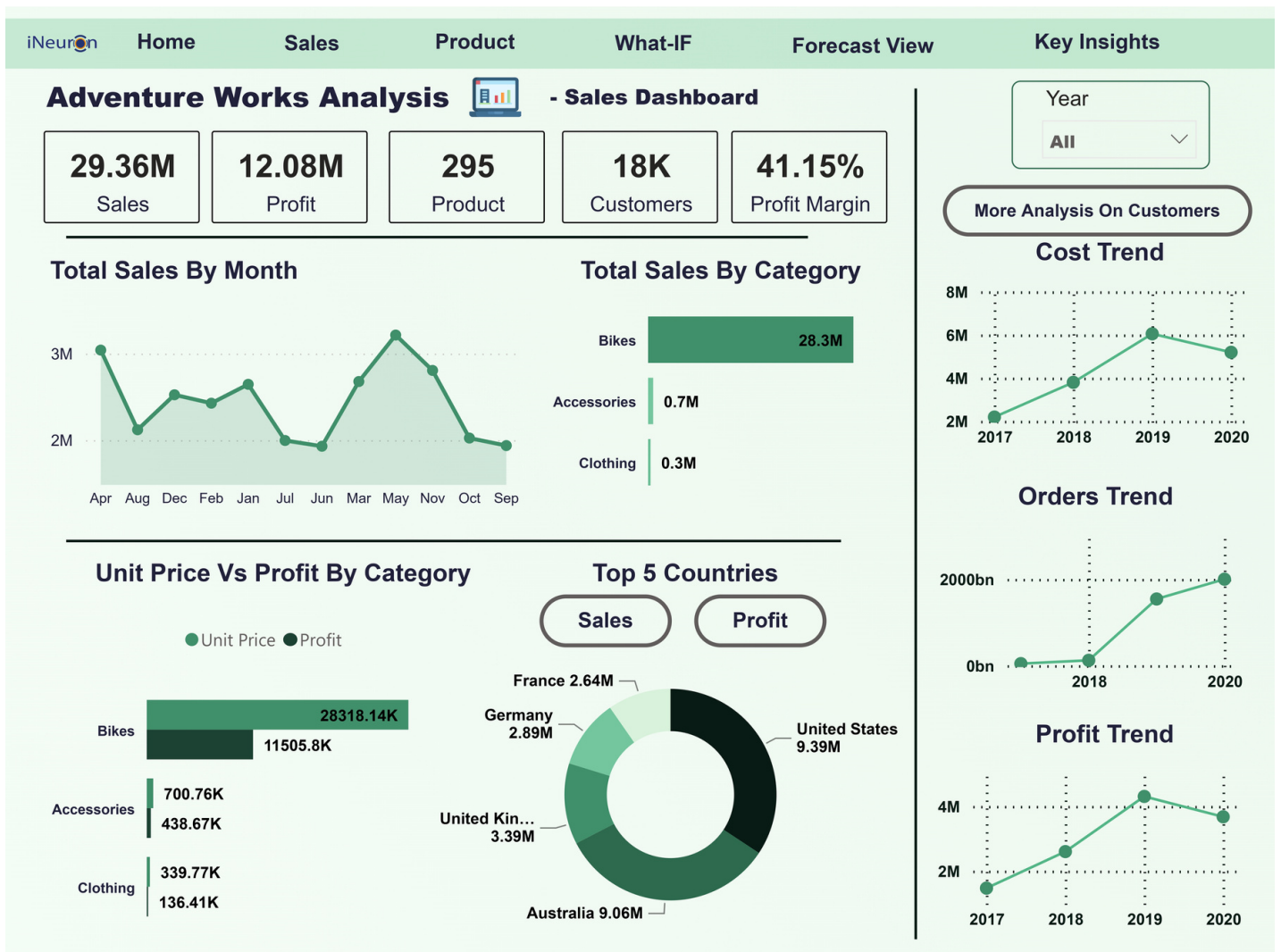
Exploring Data – Once the data is loaded and pre-processed, we preform data analysis using python libraries and Business Intelligence tools like Power BI

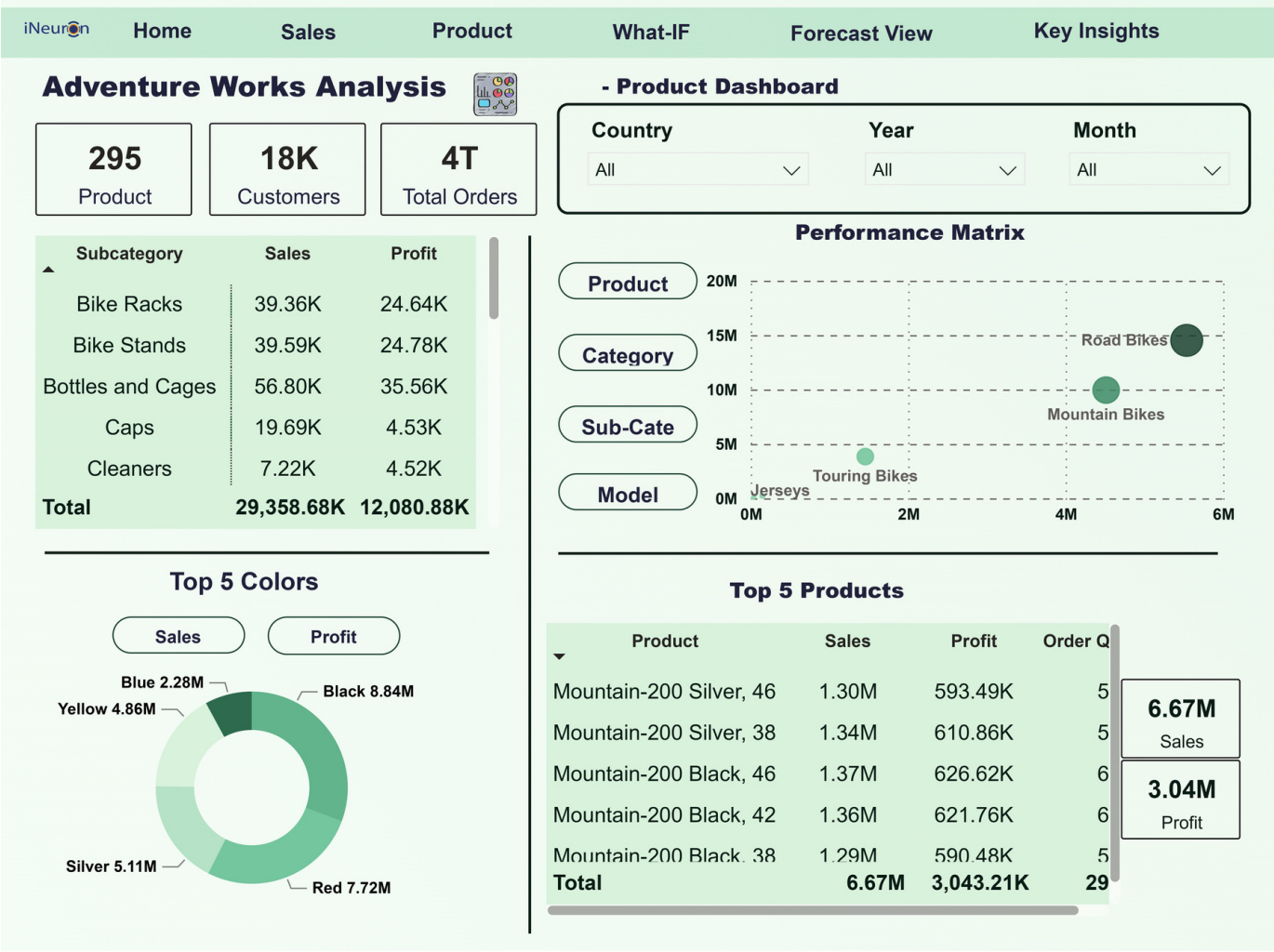DataModelling - Data Modelling is one of the features used to connect multiple data sources in BI tools using a relationship.
A relationship define show data sources are connected with each other and you can create interesting data visualizations on multiple data sources

Deployment - The prepared visualizations are deployed on the powerbi.microsoft.com site. Where they will be available publicly
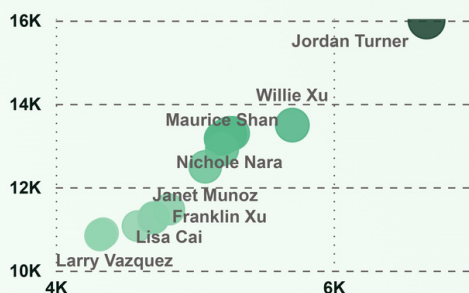
POWER BI REPORT

Adventure Works Analysis

295	18K	4T
Product	Customers	Total Orders

- Product Dashboard

Country	Year	Month
All ⌄	All ⌄	All ⌄

Subcategory	Sales	Profit
Bike Racks	39.36K	24.64K
Bike Stands	39.59K	24.78K
Bottles and Cages	56.80K	35.56K
Caps	19.69K	4.53K
Cleaners	7.22K	4.52K
Total	**29,358.68K**	**12,080.88K**

Performance Matrix

Product

Category

Sub-Cate

Model

Road Bikes
Mountain Bikes
Touring Bikes
Jerseys

Top 5 Colors

Sales   Profit

Blue 2.28M
Yellow 4.86M
Black 8.84M
Silver 5.11M
Red 7.72M

Top 5 Products

Product	Sales	Profit	Order Q
Mountain-200 Silver, 46	1.30M	593.49K	5
Mountain-200 Silver, 38	1.34M	610.86K	5
Mountain-200 Black, 46	1.37M	626.62K	6
Mountain-200 Black, 42	1.36M	621.76K	6
Mountain-200 Black, 38	1.29M	590.48K	5
Total	**6.67M**	**3,043.21K**	**29**

6.67M
Sales

3.04M
Profit

Adventure Works Customer Analysis

Customer Matrix

Analysis On Customers

Customer	Sales	Avg Sales	Profit	Profit Margin
Jordan Turner	16.00K	799.95	6.67K	41.68%
Willie Xu	13.49K	1,498.90	5.70K	42.27%
Nichole Nara	13.30K	1,022.72	5.25K	39.49%
Kaitlyn Hend…	13.29K	949.59	5.27K	39.67%
Margaret He	13.27K	947.81	5.25K	39.60%
Randall Domi…	13.27K	1,206.00	5.23K	39.44%
Total	**29,358.68K**	**486.09**	**12,080.88K**	**41.15%**

Top 5 Customers

69.35K	28.15K
Sales	Profit

● Total Profit ● Total Sales

Jordan Tu…
Willie Xu
Kaitlyn He…
Margaret He
Nichole N…

Sales By Various Dimensions

Primary Dimensions: Country | Category

Secondary Dimensions: State | Product

Product	Sales	Avg Sales	Profit	Profit M
Mountain-200 Black, 46	1,373.47K	2,215.27	626.62K	45
Mountain-200 Black, 42	1,363.14K	2,220.10	621.76K	45
Mountain-200 Silver, 38	1,339.46K	2,247.42	610.86K	45
Mountain-200 Silver, 46	1,301.10K	2,243.28	593.49K	45
Mountain-200 Black, 38	1,294.87K	2,224.86	590.48K	45
Mountain 200 Silver, 42	1,257.48K	2,245.42	573.51K	45
Total	**29,358.68K**	**486.09**	**12,080.88K**	**41**

Adventure Works Analysis   - What IF Analysis

Present Analysis	If We Change...	Future Assumptions
	(In % Terms)	

Present Analysis

If We Change...
(In % Terms)

Future Assumptions

29.36M
Sales

Price Changed
7

31.41M
Sales New

12.08M
Profit

Cost Change
-8

15.52M
Profit New

17.28M
Total Cost

15.90M
Cost New

41.15%
Profit Margin

49.40%
New Profit MArgin
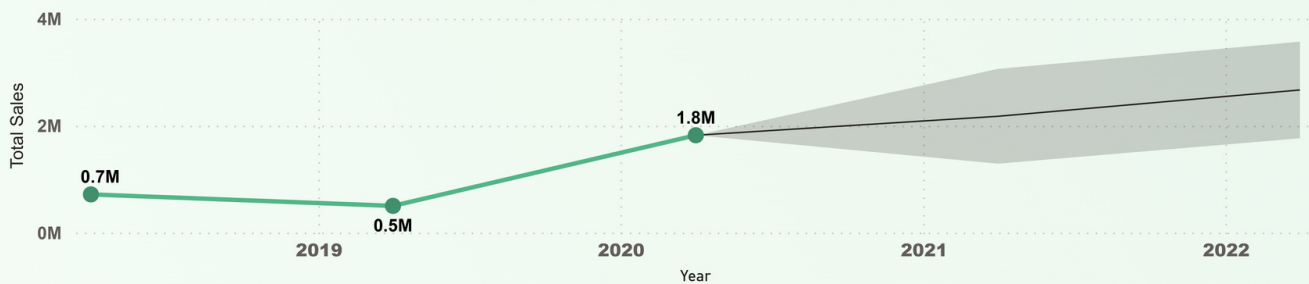
Adventure Works Analysis

Month

April ⌄

Sales Quantity History along With Forecast for Future 3 Years

Forecast Sales   Forecast Profit

Orders Quantity History along With Forecast for Future 3 Years