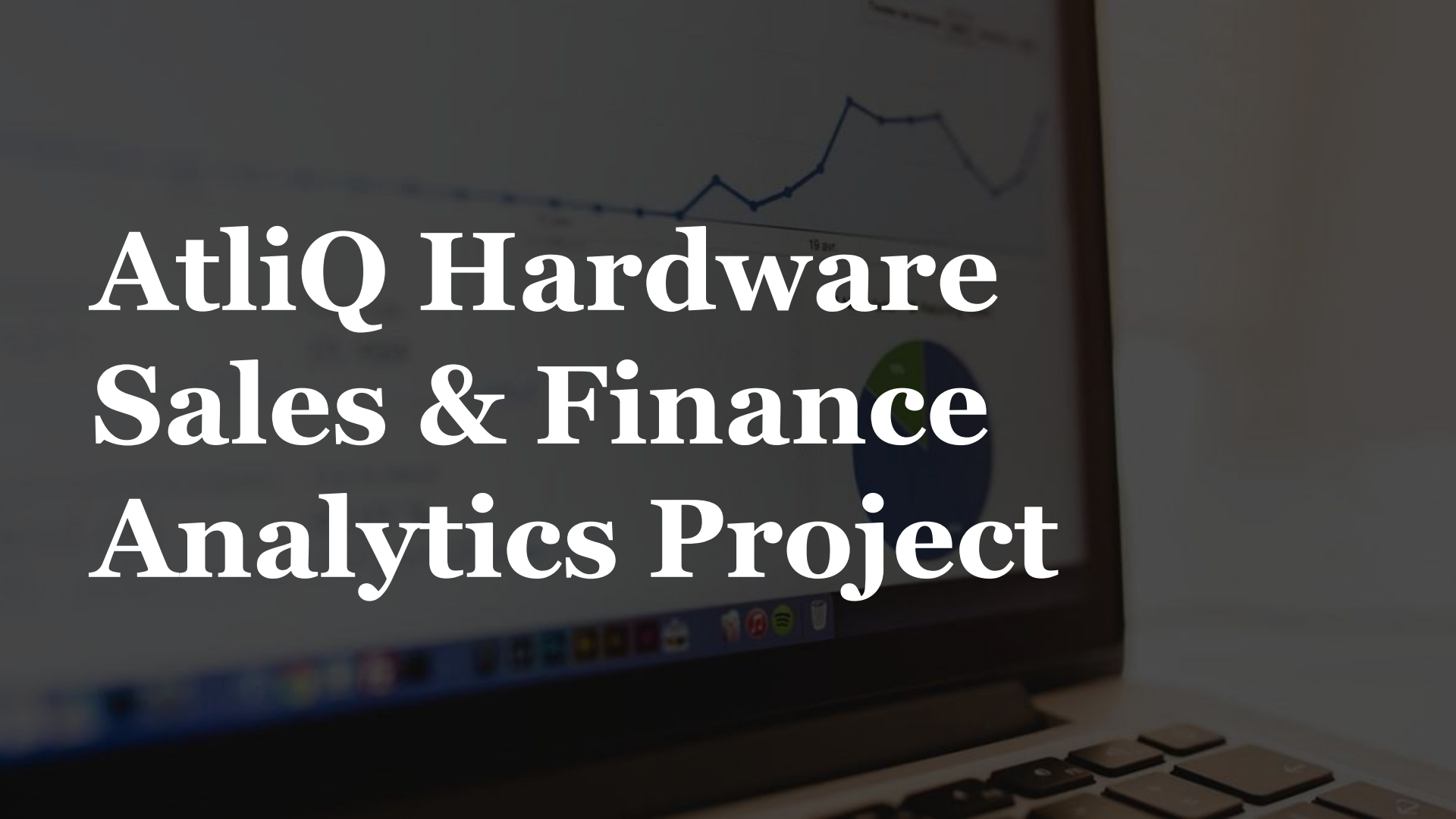
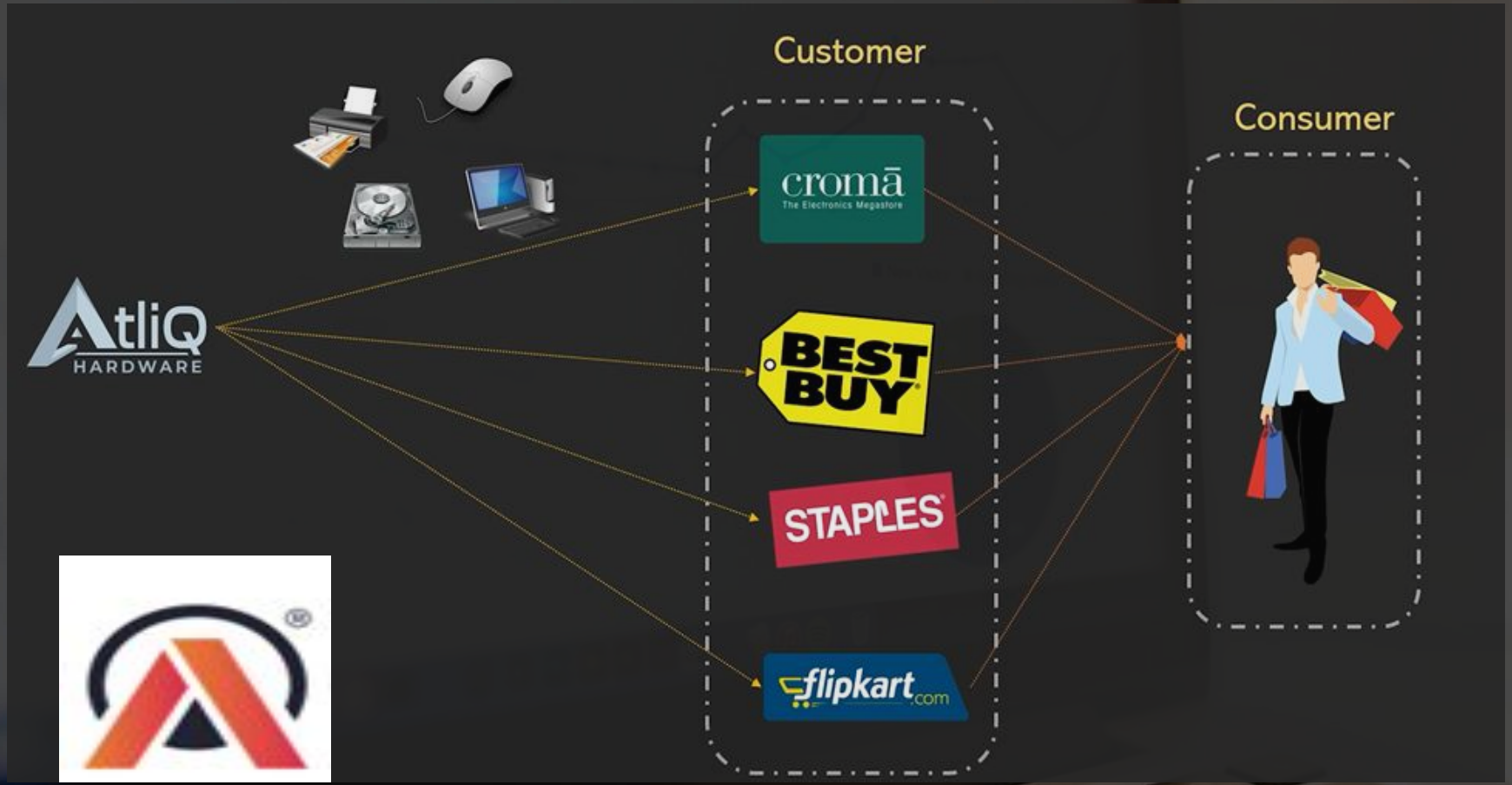


AtliQ Hardware Sales & Finance Analytics Project

ABOUT THE COMPANY

AtliQ is a company that sells Hardware like PC, Mouse, Printers etc to different customers like Chroma, Staples, BestBuy, Flipkart etc and then from these stores the hardwares are sold to the end consumer person
Customer is store
Consumer is the person who is consuming the product

Company has a manufacturing facility where they build all this hardware and send it ot the Warehouse distribution centres, they have business in different countries so they ship it to that location And from there the hardware items goes to the individual customers


Customer
Consumer
AtliQ HARDWARE
croma
The Electronics Megastore
BEST BUY
STAPLES
flipkart.com

Platforms

Brick & Mortar

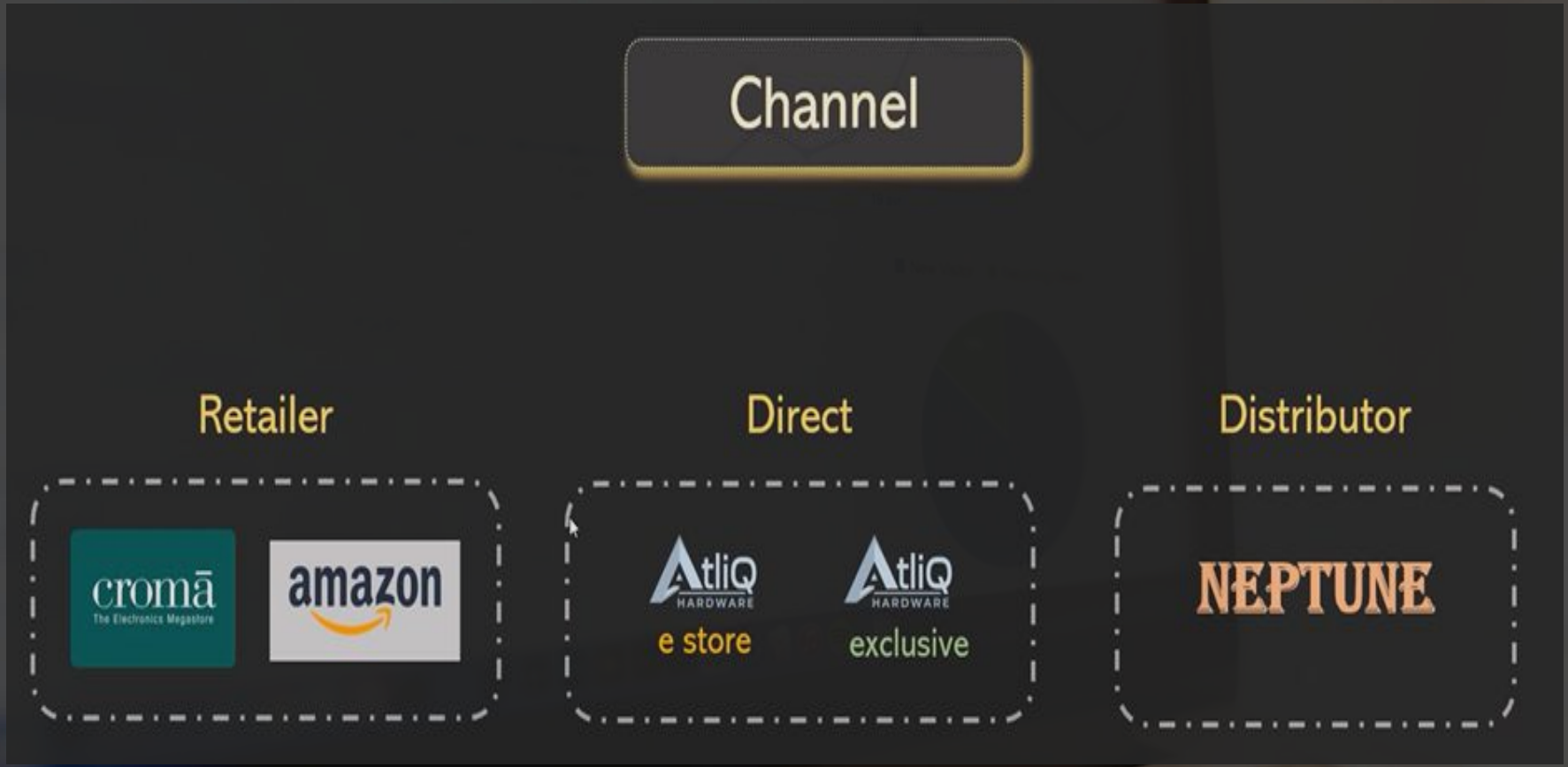
croma
The Electronics Megastore

BEST BUY

E-Commerce

amazon

flipkart.com


Channel
Retailer
croma
The Electronics Megastore
amazon
Direct
AtliQ HARDWARE
e store
AtliQ HARDWARE
exclusive
Distributor
NEPTUNE

Extract, Transform, Load Data (ETL)

Get the Sales Data Of AtliQ Hardware in the form of CSV file

AtliQ Sales Data

EXTRACT

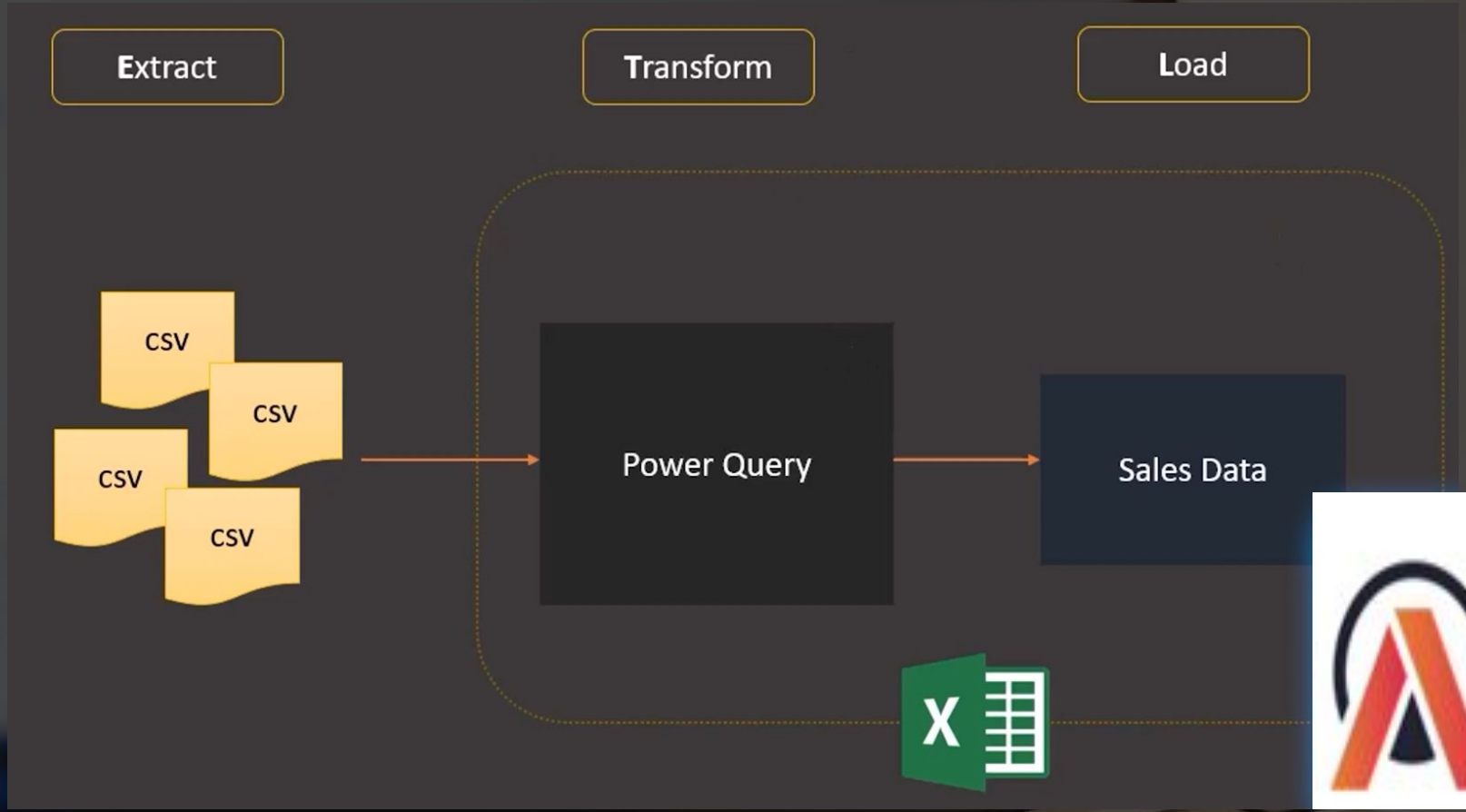
Import the CSV data into Excel

TRANSFORM

Use Power Query to perform some transformations

LOAD

The transformed data will be loaded back to excel into different sheets


Extract
Transform
Load
CSV
CSV
CSV
CSV
Power Query
Sales Data

POWER QUERY

Power Query transforms and connects data from different sources such as databases and spreadsheets, into a format suitable for analysing and reporting

- Open New Excel Workbook named "Sales_Report.xlsx"
- Go to Data tab And Get Data- From file- From Sales Data folder
- Then Click on Transform Data to perform some transformation
- Power Query window opens to transform the data

DATA CLEANING IN POWER QUERY

Data Cleaning Checklist

- Ensure there are no missing values
- Ensure all Dimension tables contain a Unique column
- Ensure there are no errors/#na in columns
- Check all the spellings randomly

PROCESS OF DATA CLEANING

- Check for distinct customer codes in the dim_customer table
- Change the spelling of AltiQ / Atliq both to AtliQ using "Replace Values" option
- Change the value of sub_zone and region under the dim_market table from nan to NA using the "Replace Values" option
- Give appropriate names to the steps under the "Applied Steps" section in Power Query
- Change the -value of Quantity in fact_Sales_monthly table to +value using Absolute from the Scientific option under Number Column of the Transform tab.
- Then close and only create connections and add data to Data Models and get back to the Excel sheet.

HOW TO THINK ABOUT THE SOLUTION ??

- List the Components
- Find the Components in the Data table
- Create Tangible action points
  - Connect tables using Data Modeling
  - Create dim_date using Power Query

- Net Sales –> fact_sales_monthly
- Year -> dim_date
- Division -> dim_product
- Country -> dim_market
- Region -> dim_market
- Customer -> dim_customer

DATA MODELING

Data Modeling involves the process of connecting different datasets together by establishing the relationship between them

- To connect tables, use Data Modeling
- Open Power Pivot and click on "Data Model" option
- Create connection amongst tables using Data Modeling
- Dimension Table contains Primary Key
- Fact Table contains Foreign Key
- In power pivot, connect all the tables using the Star Schema by keeping the fact table in the middle which here is fact_sales_monthly and the dimension tables around it.

Adding Date Table Using Power Query

- In power query editor, create new table
- Create new query then blank query and name it dim_date
- Type the formula ={Number.From(#date(2018,9,1))..Number.From(#date(2021,8,1))}
- Convert the list that you got in form of ABC to date and rename the column_name to Date
- Create two new columns namely Year and month
- Go to Add column then date then month then start of the month and change the column name to month
- Similarly create the Year column as well.

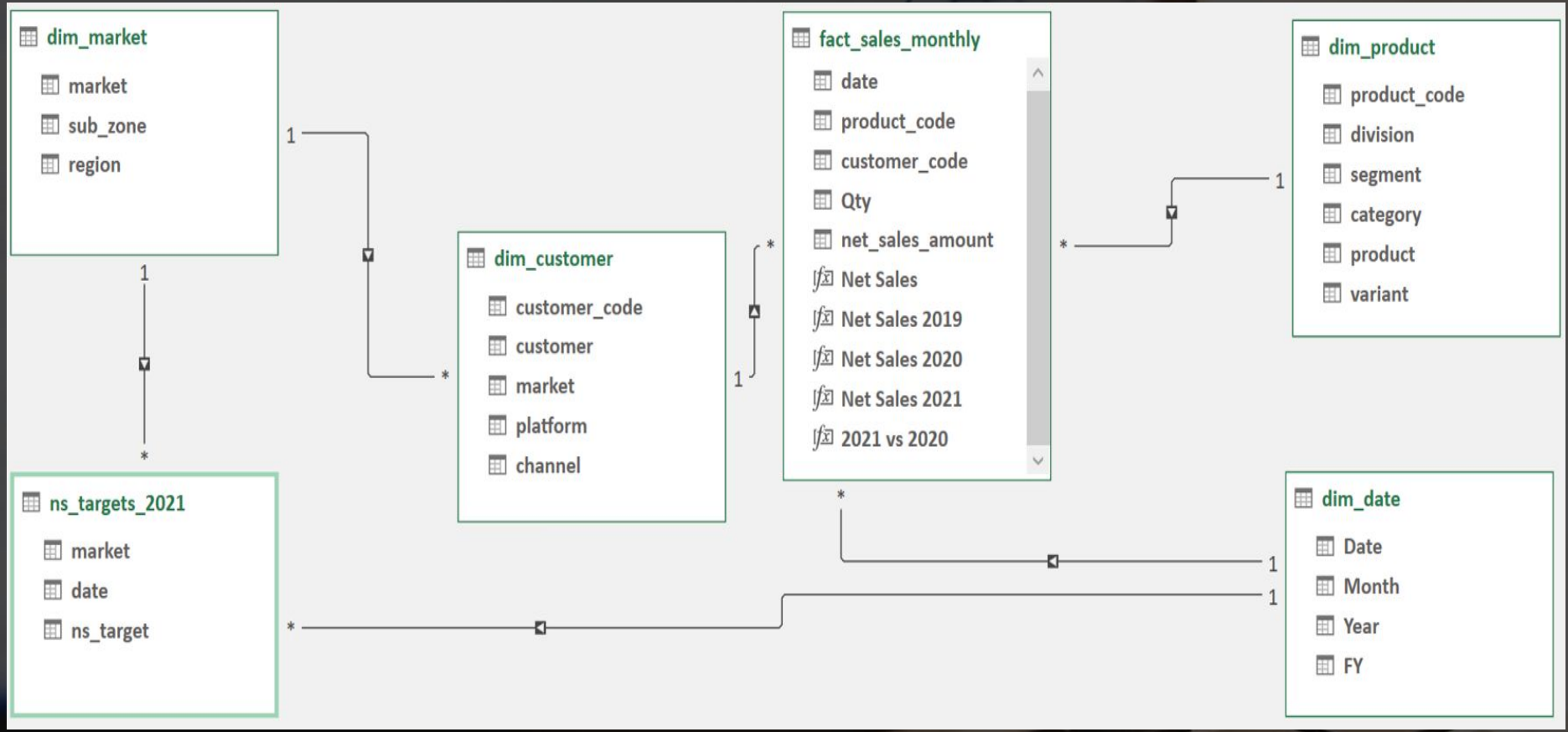
FISCAL YEAR

- The financial year or commonly called fiscal year of India is April 1st to March end.
- The fiscal year of AtliQ Hardware is September 1st to August end.

Calculating the FISCAL YEAR in Power Query

- In dim_date table in Power Query Editor
- Add a new column using "Custom Column" named FY_month using =Date.AddMonths([month],4)
- Add another custom column named FY using =Date.Year([FY_month])
- Now close and only create connection and add data to the data model
- Now under power pivot complete the diagram by connecting the dim_date table to the table column of the fact_sales_monthly table

DATA MODEL


dim_market
market
sub_zone
region
fact_sales_monthly
date
product_code
customer_code
Qty
net_sales_amount
Net Sales
Net Sales 2019
Net Sales 2020
Net Sales 2021
2021 vs 2020
dim_product
product_code
division
segment
category
product
variant
dim_customer
customer_code
customer
market
platform
channel
ns_targets_2021
market
date
ns_target
dim_date
Date
Month
Year
FY
1
*

CUSTOMER PERFORMANCE REPORT

- Net Sales –> fact_sales_monthly
- Year -> dim_date
- Division -> dim_product
- Country -> dim_market
- Region -> dim_market
- Customer -> dim_customer

CUSTOMER PERFORMANCE REPORT

- In Pivot table, insert pivot table from the data models.
- In pivot table field list, select customer from dim_customer under the rows section
- Select region, market from dim_market and division from dim_product under the filters section
- Select sum of net_sales_amount from fact_sales_monthly under the values section.
- Select FY from dim_date under the columns section.
- Create a dax formula, by creating a new measure under the power pivot section.
- Create new measure named Net Sales, by using Dax, =SUM(fact_sales_monthly[net_sales_amount]), and drag the Net Sales column into the Values section.

CUSTOMER PERFORMANCE REPORT

- Use CALCULATE formula that applies filter {calculate (value, field)} of dax function.
- Calculate Net Sales 2019 using =CALCULATE ([Net Sales], dim_date[FY]=”2019”), and drag the Net Sales 2019 column into the Values section.
- Similarly create Net Sales 2020 and 2021 and drag them all into the Values section of the pivot table list.
- Create new measure named 2021 vs 2020 using =DIVIDE([Net Sales 2021], [Net Sales 2020], 0) under the % value.

Creating User Empathetic Reports

- Creating User Readability, by converting data into simpler number format like millions
- Creating Time to Action by using Conditional formatting to highlight the specific high or low data points
- Change the number format for all the three Net Sales values by changing the value field settings by going to number format and under custom type 0.0,,”M”
- Under the View tab, go to the Page Layout option and add a header and assign the right format and table design.
- Create 3-color-scale conditional formatting for all the year Net Sales values and use data bars for 2021 vs 2020.

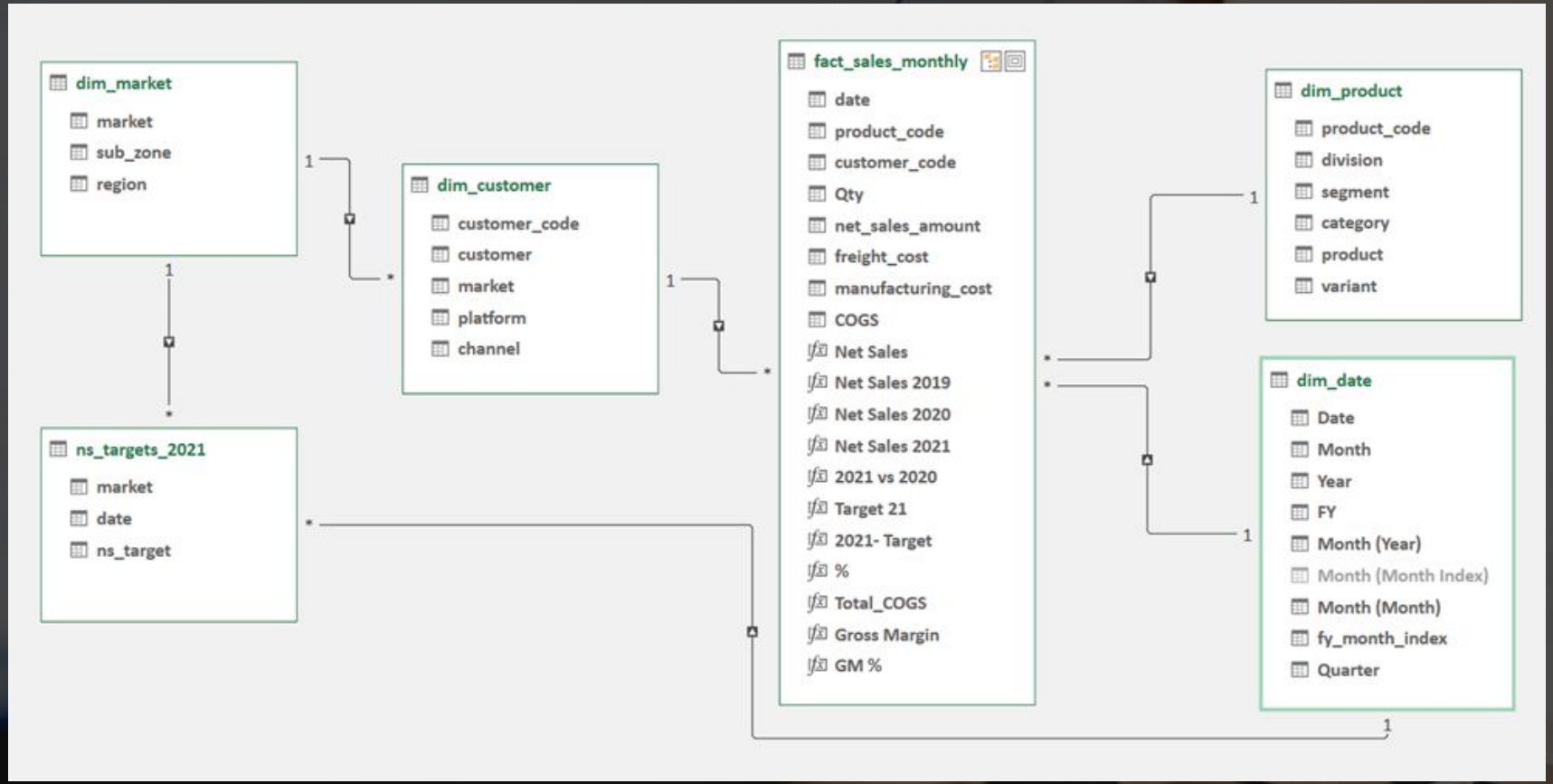
Creating Market Performance vs Targets Report

- Connect the market column of ns_targets_2021 table in the data model to the market column of dim_market and connect date column to the dim_date table under diagram view.
- Create a new measure named Target 21 using =SUM(ns_targets_2021 [ns_target])
- Create another measure named 2021-Target using formula =[Net Sales 2021]-[Target 21] and convert into millions
- Create last measure named % using =DIVIDE([2021-Target],[Target 21],0)
- Apply 3-scale and data bar types of conditional formatting to the beautify and simplify the report.

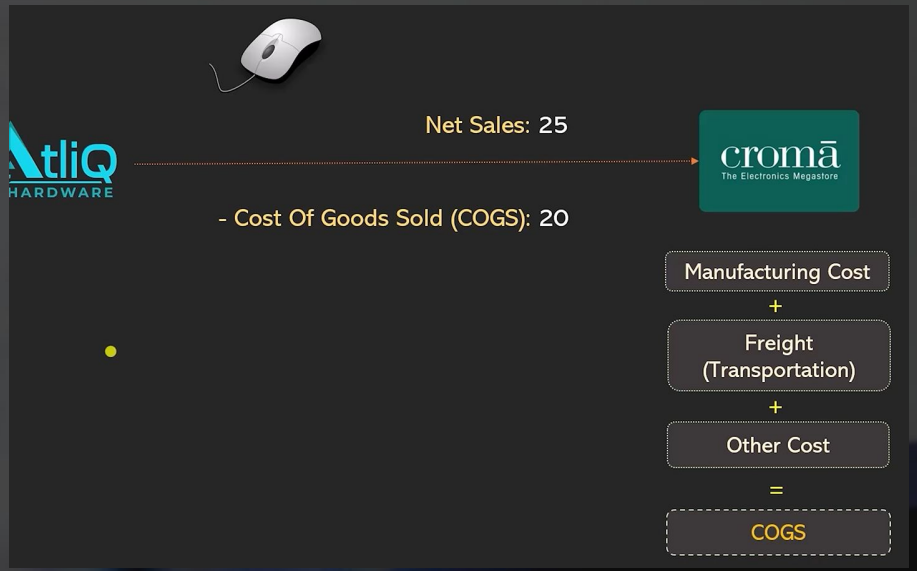
Links Of SALES ANALYTICS Business Reports

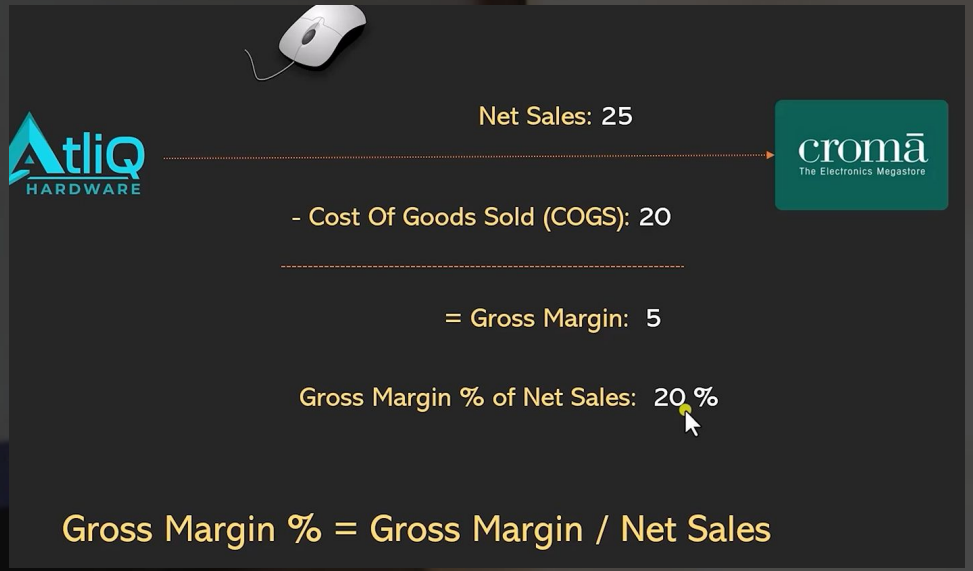
- Customer Performance Report
- Market Performance Vs Target
- Top 10 Products (By Value)
- Top 5 Products (By Quantity)
- Bottom 5 Products (By Quantity)
- Division Level Report
- New Products-2021
- Top 5 Country-2021

DATA MODEL


dim_market
market
sub_zone
region
dim_customer
customer_code
customer
market
platform
channel
fact_sales_monthly
date
product_code
customer_code
Qty
net_sales_amount
freight_cost
manufacturing_cost
COGS
Net Sales
Net Sales 2019
Net Sales 2020
Net Sales 2021
2021 vs 2020
Target 21
2021- Target
%
Total_COGS
Gross Margin
GM %
dim_product
product_code
division
segment
category
product
variant
dim_date
Date
Month
Year
FY
Month (Year)
Month (Month Index)
Month (Month)
fy_month_index
Quarter
ns_targets_2021
market
date
ns_target
1
*

Profit And Loss Statements Of AtliQ Hardware





Adding Finance Data To Data Model

- Upload the fact_sales_monthly_with_cost into the Power Query editor and clean and transform the data.
- Merge the above table with fact_sales_monthly by renaming the above file to finance ref and under the fact_sales_monthly Source section change to =#”finance ref”
- Rename fact_sales_monthly to fact_sales_monthly_with_cost

P&L By Year Report

- Create total COGS column in Data model by using fact_sales_monthly [freight_cost] + fact_sales_monthly [manufacturing_cost]
- Select net_sales into values section and create a new measure named COGS by using =SUM[fact_sales_monthly [totalCOGS])
- The Value section now contains - Net Sales, COGS and the rows section contains the value, along with the column section with FY
- Create a new measure named Gross Margin by =[Net Sales]-[COGS]
- Create GM% by =DIVIDE ([Gross Margin], [Net Sales],0) and convert the values into millions using 0.0,,"M"
- Create a new column named 21vs20 by =IFERROR(D9/C9-1,"")
- The report named P&L By Fiscal Year is created using the above pivot.

Adding Months & Quarters In Data Model

- Create a new column named Month in the dim_date table by using =FORMAT([date],”MMM”)
- To calculate the fiscal quarter we need to calculate the month number first by using =MONTH ([date])
- Calculate fiscal month number first to calculate fiscal quarter by using =MONTH(DATE(YEAR([Date]), MONTH([Date])+4, 1))
- Name the above column to “ fy_month_index “
- Create a new column named Quarter in dim_date using ="Q"&ROUNDUP([fy_month_index]/3,0)
- Close and load to the data model

P&L By Months Report

- Create a report named P&L By Fiscal Months
- Drop the month name along with the quarter column from dim_date into the Columns section of the power pivot
- Create different Pivots for all the three fiscal years, by moving to select action under the pivot table analyze tab
- Create another pivot named P&L By Quarters to analyze each quarter's p&l metrics for all the three years.
- Also create another report to analyze the P&L of all the countries or the market along with the customer P&L analysis in each market

Links Of FINANCE ANALYTICS Business Reports

- P & L Report By Fiscal Year
- P & L Report By Fiscal Months
- P & L Report By Fiscal Quarter
- P & L Report For Markets in 2021
- GM % Quarter Report for each year Sub Zone
- P & L Report For Channels in each Fiscal Year

SUMMARY

This project includes the two major domains of Analytics

A. Sales Analytics
B. Finance Analytics

The project provided actionable insights for sales and finance teams to optimize business strategies and improve performance.

The project successfully transformed raw data into valuable insights to support informed decision-making within the organization


Crystal Ball
Data is Worth
a 1,000 Words


Thank You


Thank You