consumer goods

SQL project challange

presented by WAFA DAKHEEL

Agenda

01   Background/context

02   Getting familiar Motron's Business - their Market and product lines

03   Gitting familiar with input data

04   Ad-hor requests along with the queried result, visualization and insght

BACKGROUND/ CONTEXT

our company

Motron (imaginary company) - one of the leading computer hardware producers in USA

Background

the management noticed that they do not get enough insights to make quick and smart data-informed decisions

Problem

There are 10 ad-hoc requests for which the company needs insights

Approachnd

Run a SQL query to answer these requests. Convert it into kvisualizations and present the insights to the top-level management
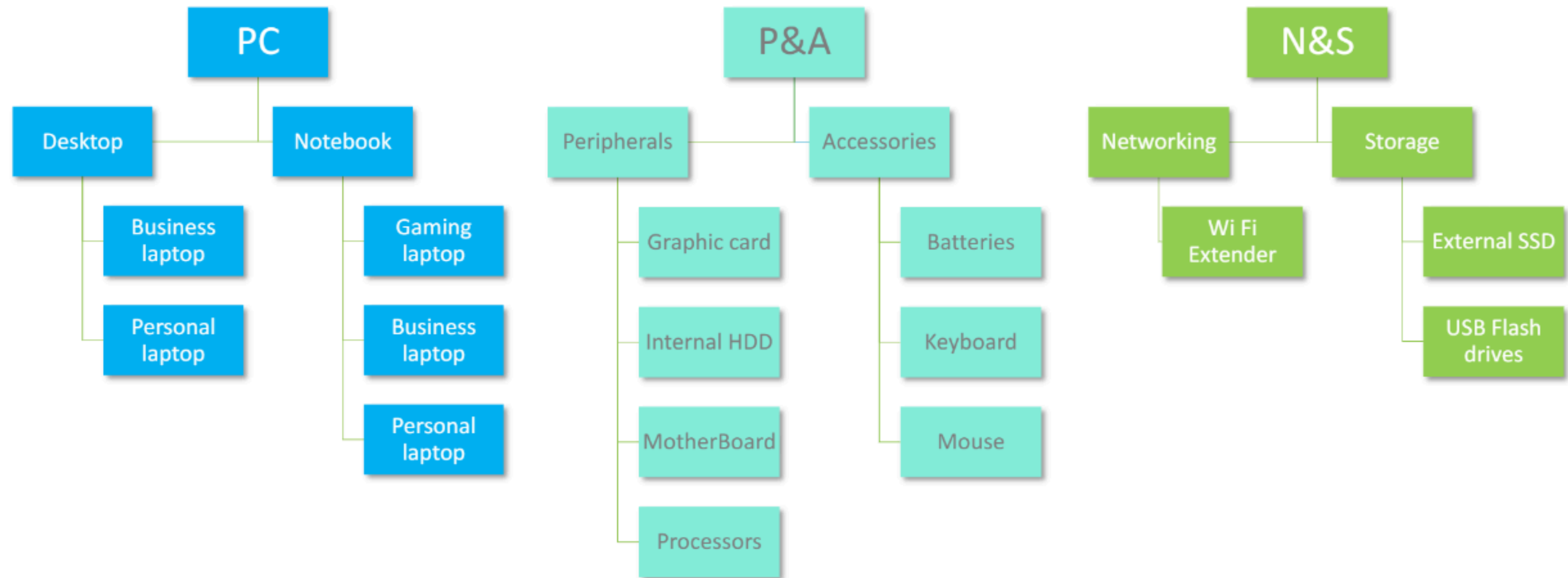
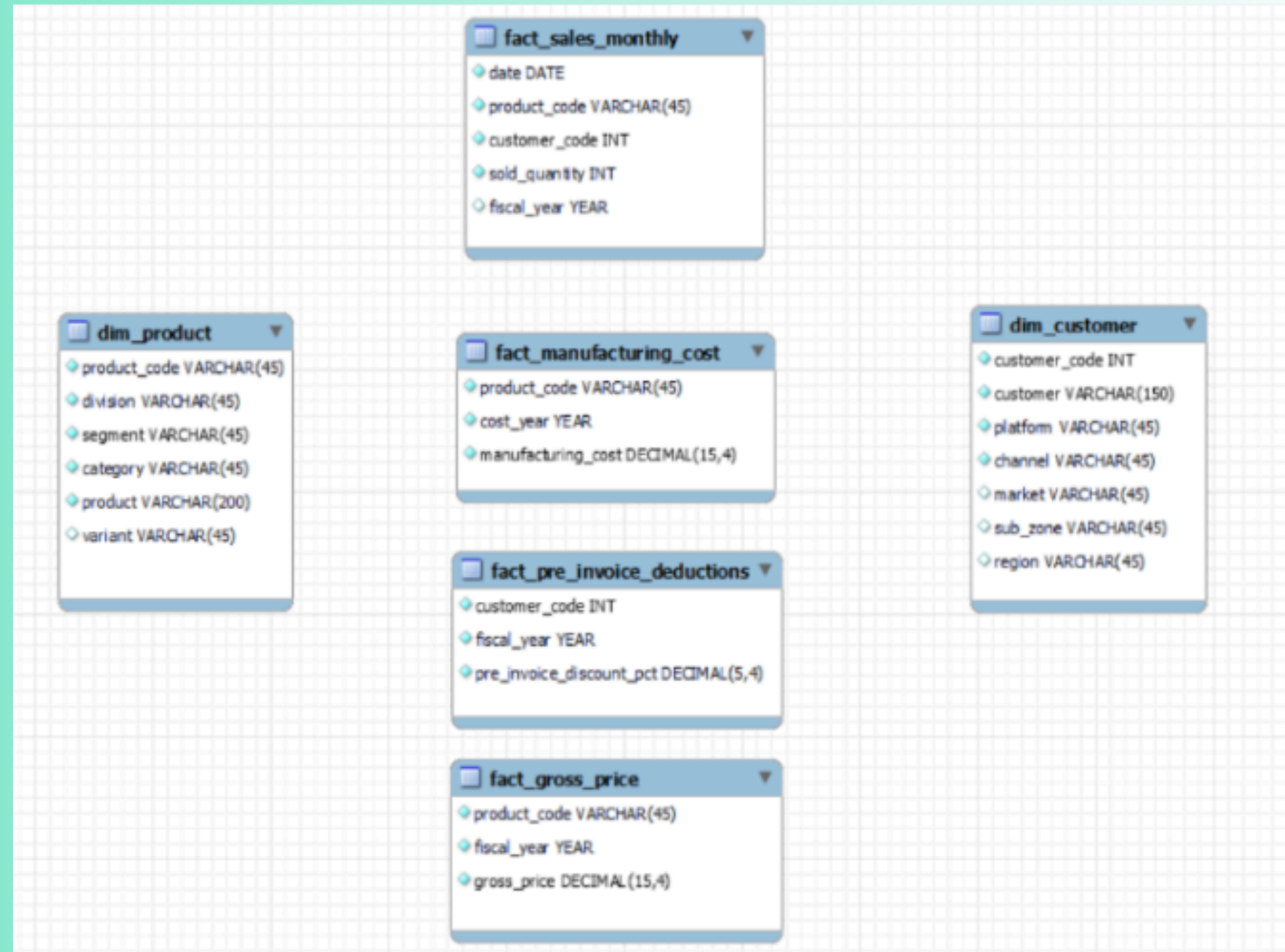# Getting familiar with Motrn's Business - Their Markets and Product lines

Motron's Business Markets

Getting familiar with the input data

fact_sales_monthly
- date DATE
- product_code VARCHAR(45)
- customer_code INT
- sold_quantity INT
- fiscal_year YEAR

dim_product
- product_code VARCHAR(45)
- division VARCHAR(45)
- segment VARCHAR(45)
- category VARCHAR(45)
- product VARCHAR(200)
- variant VARCHAR(45)

fact_manufacturing_cost
- product_code VARCHAR(45)
- cost_year YEAR
- manufacturing_cost DECIMAL(15,4)

fact_pre_invoice_deductions
- customer_code INT
- fiscal_year YEAR
- pre_invoice_discount_pct DECIMAL(5,4)

fact_gross_price
- product_code VARCHAR(45)
- fiscal_year YEAR
- gross_price DECIMAL(15,4)

dim_customer
- customer_code INT
- customer VARCHAR(150)
- platform VARCHAR(45)
- channel VARCHAR(45)
- market VARCHAR(45)
- sub_zone VARCHAR(45)
- region VARCHAR(45)

- Input data consists of sales data for FY 2020 and FY 2021 , along with different other dimension tables like customer details product details, etc

Ad-hoc requeste, queried results. Insights and visualization

the input data

market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

REQUEST 1:

- Provide the list of markets in which customer "Motorn Exclusive " operates its business in the APAC region.

Insights

- In the APAC region, our Exclusive store has established its presence in 8 major markets.

Motron's Business Markets

REQUEST 2:

- What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields:

2020 - 2021

output data

unique_product_2020	unique_product_2021	percentage_chg
245	334	36.33

Insights

- it's a good sign that we are continuously innovating and introducing new products to the market. In FY 2020,we had a total of 245 products, but in FY 2021,our count increased by 36% to 334 products.

output data

36.33
% increase

334

245

Product_count-2020
Product_count-2021

2020 2021
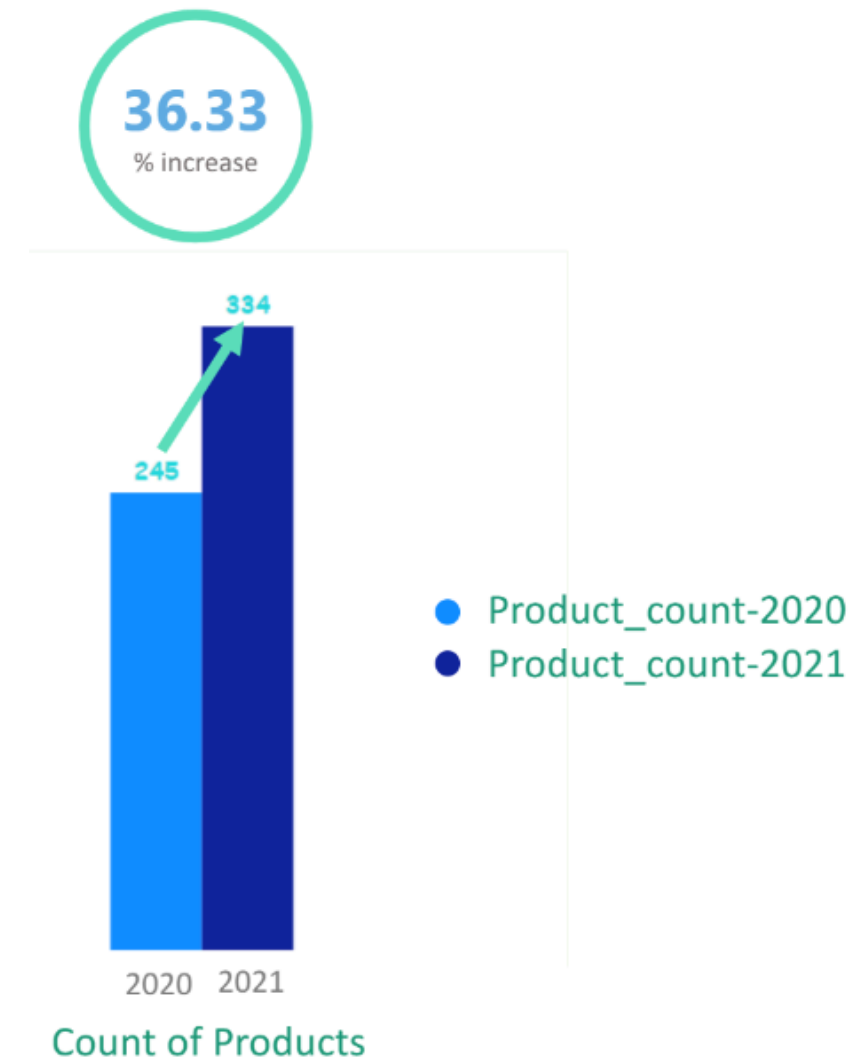
Count of Products

REQUEST 3:

- Provide a report with all the unique product counts for each segment and sort them in descending order of product counts. The final output contains 2 fields;

output data

segment	product_count
Notebook	129
Accessories	116
Peripherals	84
Desktop	32
Storage	27
Networking	9

REQUEST 4:

- Follow-up : Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields:

output data

segment	product_count_2020	product_count_2021	difference
Accessories	69	103	34
Desktop	7	22	15
Networking	6	9	3
Notebook	92	108	16
Peripherals	59	75	16
Storage	12	17	5

Insights

- In 2021, we were mainly focusing on diversfying our accessories segment. We introduced 34 new products to the market in accessories.

Notebook

92 ---- 108t.

Peripherais

12 ---- 17

Networkinfing

6 --- 9

Accessories

69 ------ 103

Desktop

7 --- 22
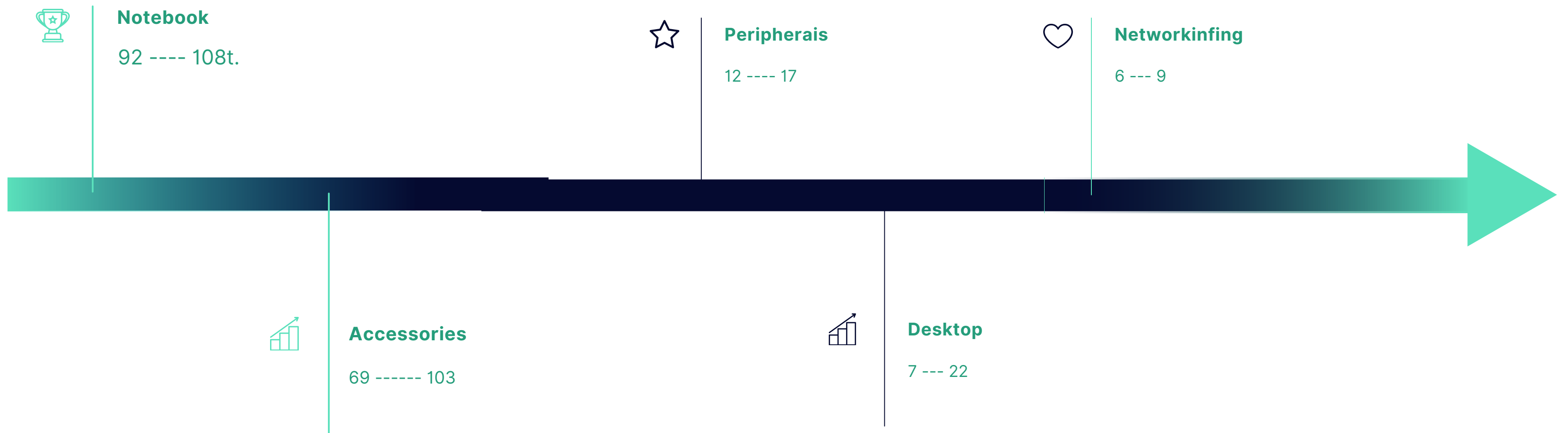
comparison of product count 2020 vs 2021 for each of the segments

REQUEST 5:

- Get the products that have the highest and lowest manufacturing costs. The final output sgould contain these fields:
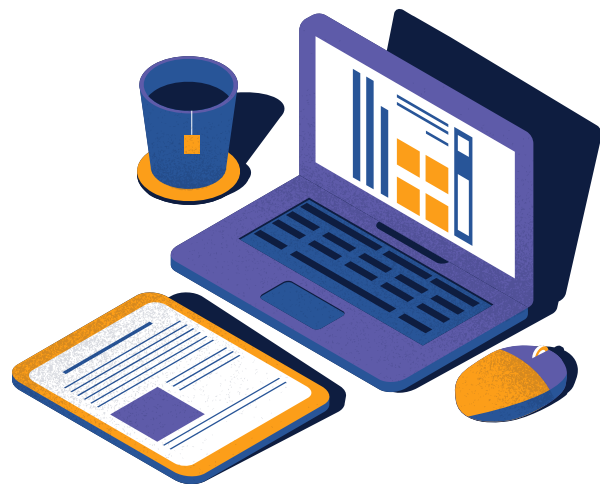
output data

product_code	product	manufacturing_cost
A6120110206	AQ HOME Allin1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.8920

Insights

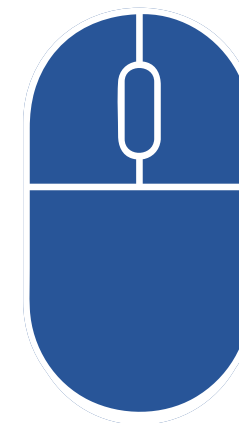Which of our products has the highest manufacturing cost ?

240.54$

MT HOME Allin 1 Gen 2 (Plus 3)

Personal Desktop

Which of our products has the lowest manufacturing cost ?

0.89$

AQ Master wied x1 Ms (Standard 1)

Mouse

REQUEST 6:

- Generate a report which contains the top 5 customers who received an average high pre_invoice discount_pct for the fiscal year 2021 and in the India market. The final output contains these fields:
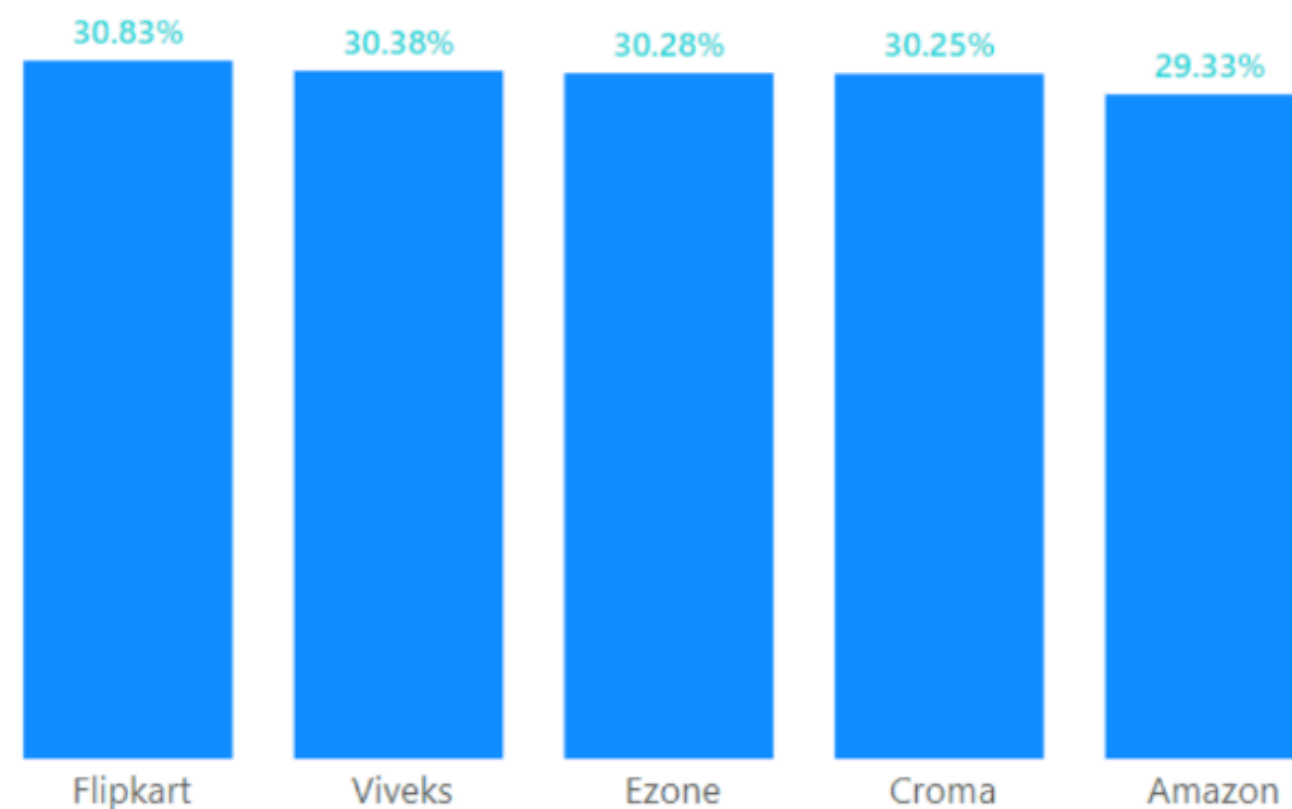
output data

customer_code	customer	average_discount_percentage
90002009	Flipkart	0.3083
90002006	Viveks	0.3038
90002003	Ezone	0.3028
90002002	Croma	0.3025
90002016	Amazon	0.2933

Insights

In 2021, we offered nearly equal **pre-invoice discount percentages to each of our top customers,**given that **Flipkart** is the most discounted customer in the India market, which equals 30.83%.

who are the top 5 customers for whom we offered the most pre-invoice discount percentage in 2021 and in the Indian market ?

REQUEST 7:

- Get the complete report of the Gross sales amount for the customer "Motron Exclusive " for each month.This analysis helps to get an idea of low and high-performing months and take strategic decision. The final report contains these columns;

months	year	gross_sales
September	2019	9.09M
October	2019	10.38M
November	2019	15.23M
December	2019	9.76M
January	2020	9.58M
February	2020	8.08M
March	2020	0.77M
April	2020	0.80M
May	2020	1.59M
June	2020	3.43M
July	2020	5.15M
August	2020	5.64M
September	2020	19.53M
October	2020	21.02M
November	2020	32.25M
December	2020	20.41M
January	2021	19.57M
February	2021	15.99M
March	2021	19.15M
April	2021	11.48M
May	2021	19.20M
June	2021	15.46M
July	2021	19.04M
August	2021	11.32M

Insights

For Motron Exclusive,November 2020 marked the highest sales, and March 2020 marked the lowest gross sales. it's very evident that the **lower sales between March and August are because of COVID-19.**Howeverit's a very good sign that the sales increased quickly after August and reached **the highest level since the last two years in November.**
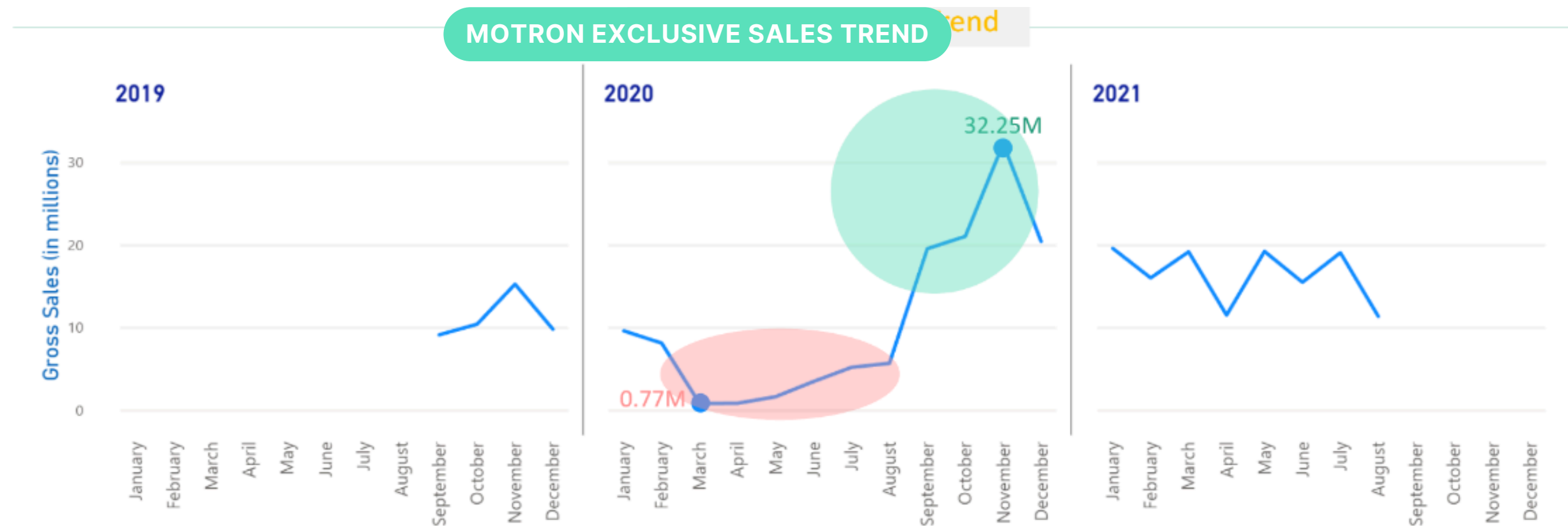
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