

AD-HOC INSIGHTS

MYSQL PROJECT



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Introduction

- Atliq Hardwares (imaginary company) is leading computer hardware producer with market in India and well expanded in other countries too
- They want to expand their data analytics team to get enough insights to make quick and smart data-informed decisions.
- Tony Sharma, their data analytics lead decided to conduct a SQL challenge which will help him hire someone who is good at both tech and soft skills.



Overview

Atliq Hardware is a computer hardware and accessory manufacturer



SEPT 2019 – AUG 2020

FY 2020

SEPT 2020 – AUG 2021

FY 2021



Company's Market

- NA
- LATAM
- EU
- APAC



Product lines

- DIVISION
- SEGMENT
- CATEGORY

OBJECTIVES

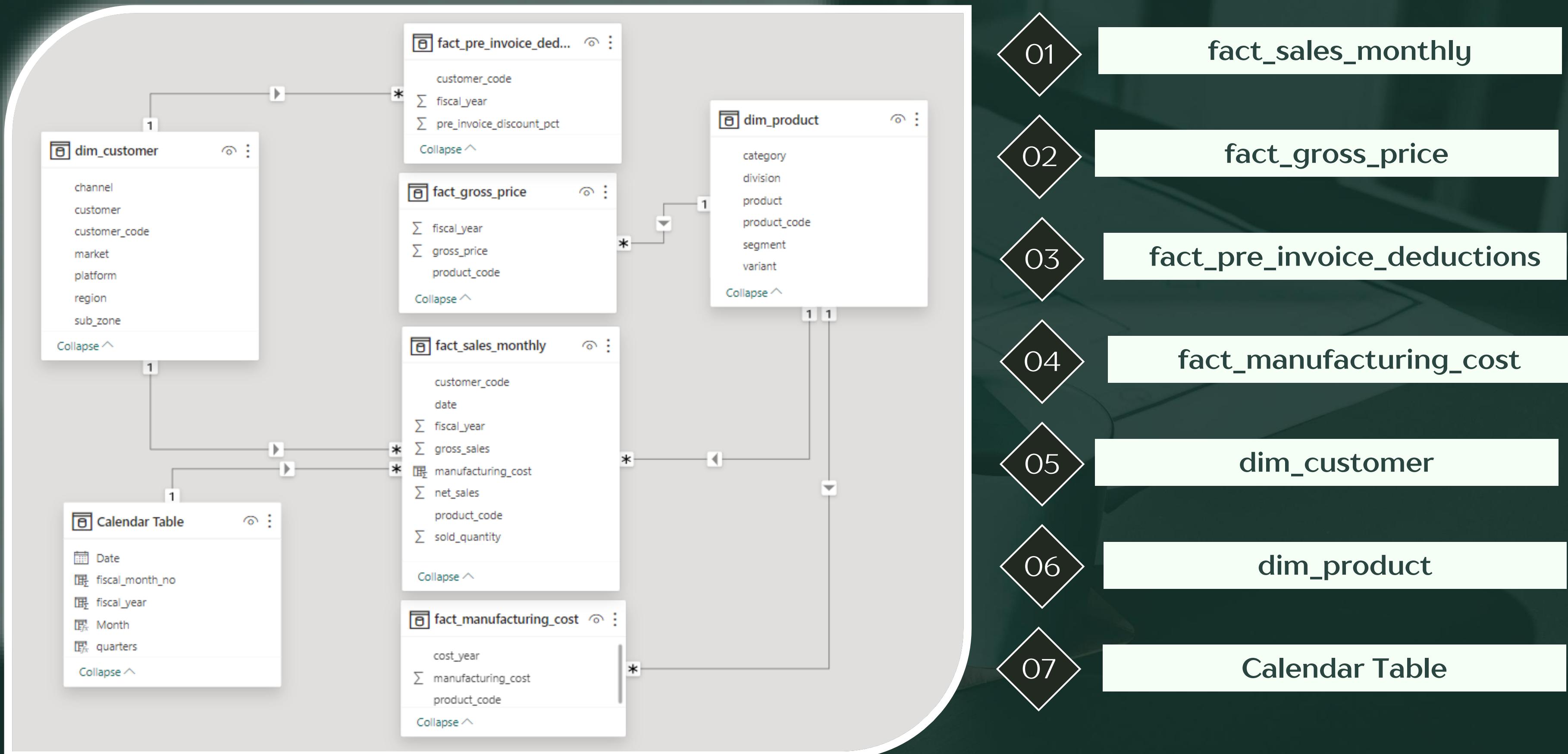
01

Run a SQL query to answer
10 ad-hoc requests for
which the company needs
insights

02

Convert it into
visualizations and present
the insights to the top level
management

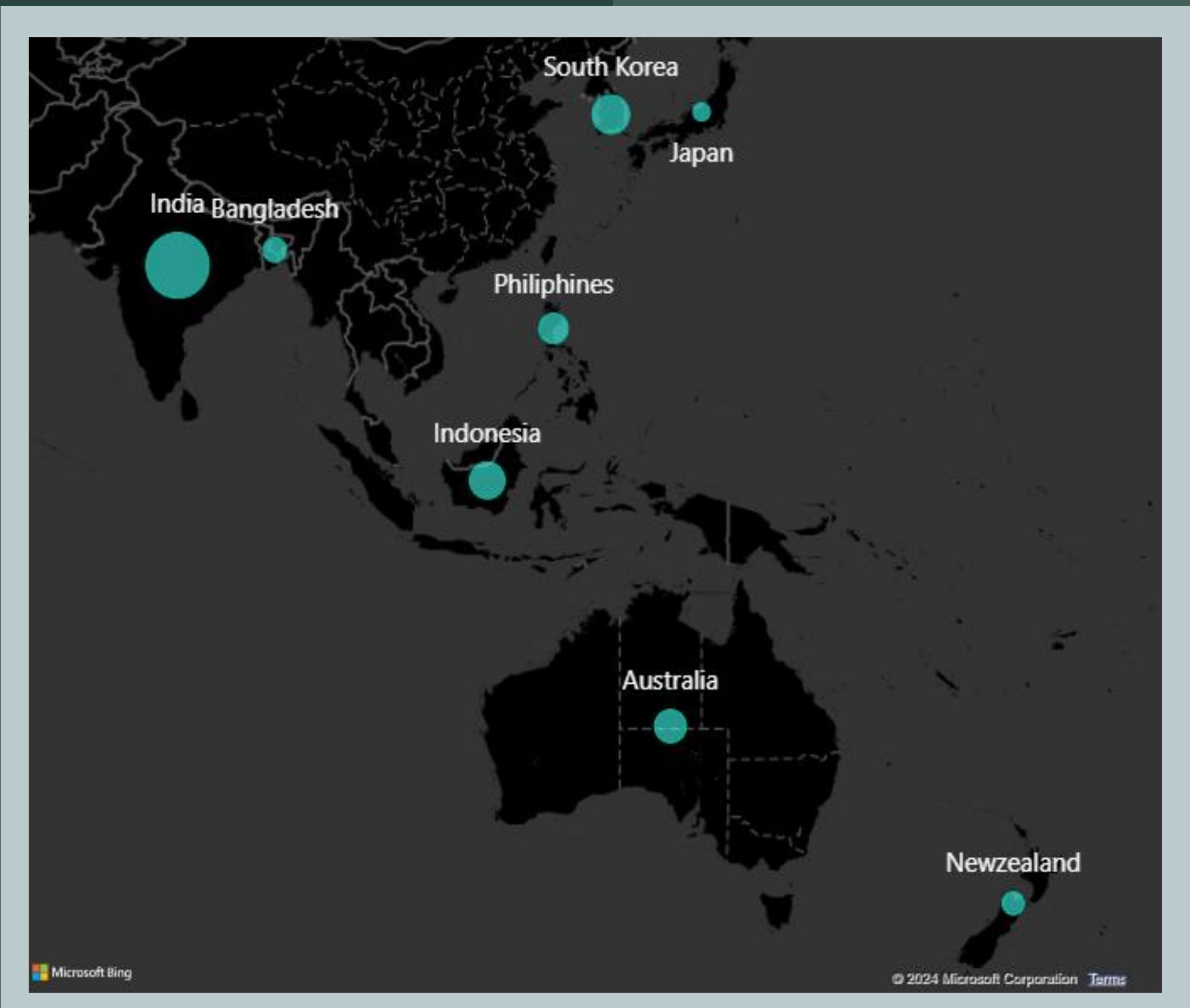
DATA MODEL



Q1 Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

market
Australia
Bangladesh
India
Indonesia
Japan
Newzealand
Philiphines
South Korea

- 8 Major markets in APAC region
- India leading in net sales

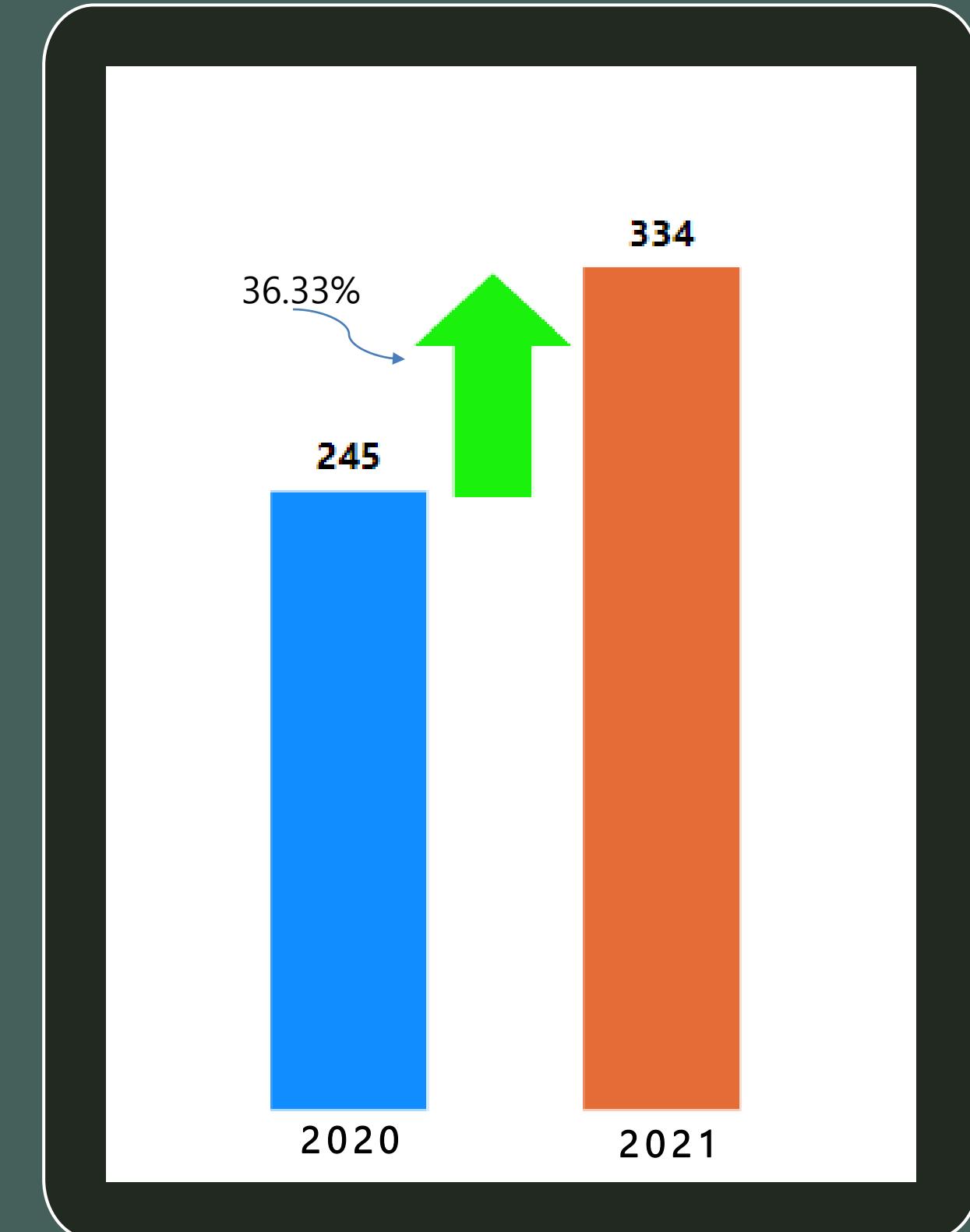


Market	NS \$
India	49.3M
South Korea	14.6M
Indonesia	13.0M
Australia	10.0M
Philiphines	8.0M
Bangladesh	4.4M
Newzealand	3.7M
Japan	1.8M

O2 What is the percentage of unique product increase in 2021 vs. 2020?

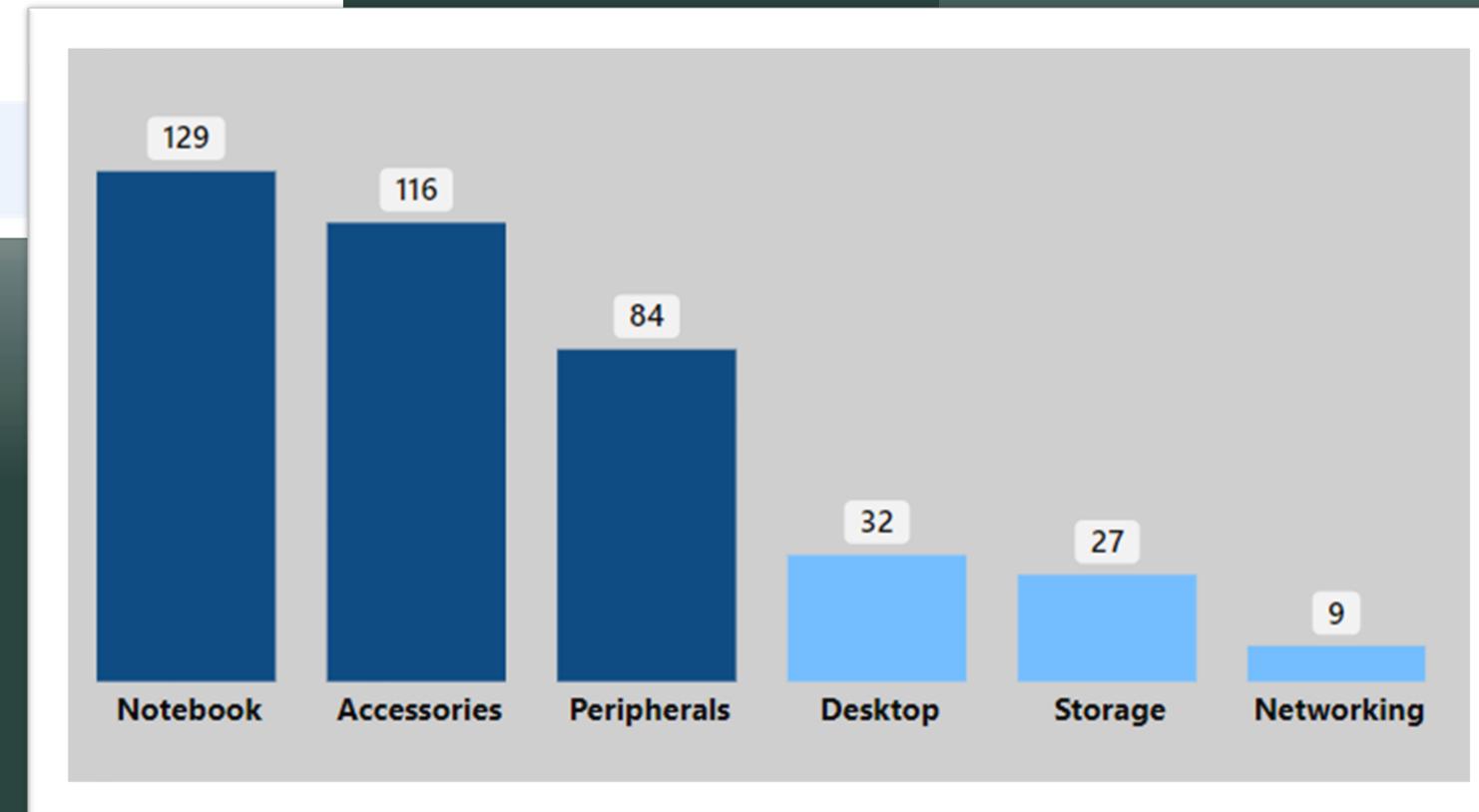
	unique_products_2020	unique_products_2021	pct_change
▶	245	334	36.33

- Product-line extension indicates efforts to increase company's market share by satisfying consumer demand
- It will help to stand out from the competitors and appeal to a wide range of customers.



03 Unique product counts for each segment and sort them in descending order of product counts.

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

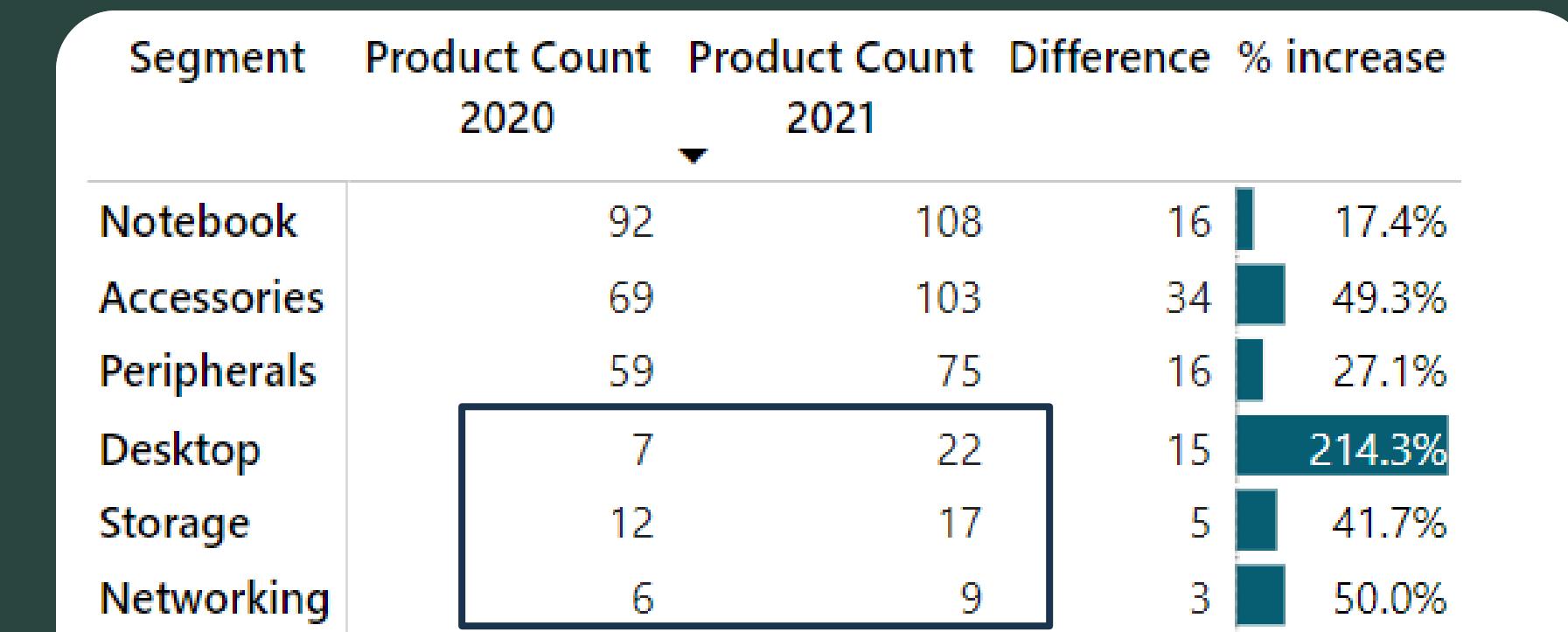


Segment	Product Count	AVG Manufacturing Cost
Notebook	129	\$695.5
Accessories	116	\$612.4
Peripherals	84	\$560.0
Desktop	32	\$878.4
Storage	27	\$909.7
Networking	9	\$1,518.6

- Top 3 segments constitute 82 % of the overall products.
- Bottom 3 segments have lower product count owing to its higher manufacturing cost.

Q4 Which segment had the most increase in unique products in 2021 vs 2020

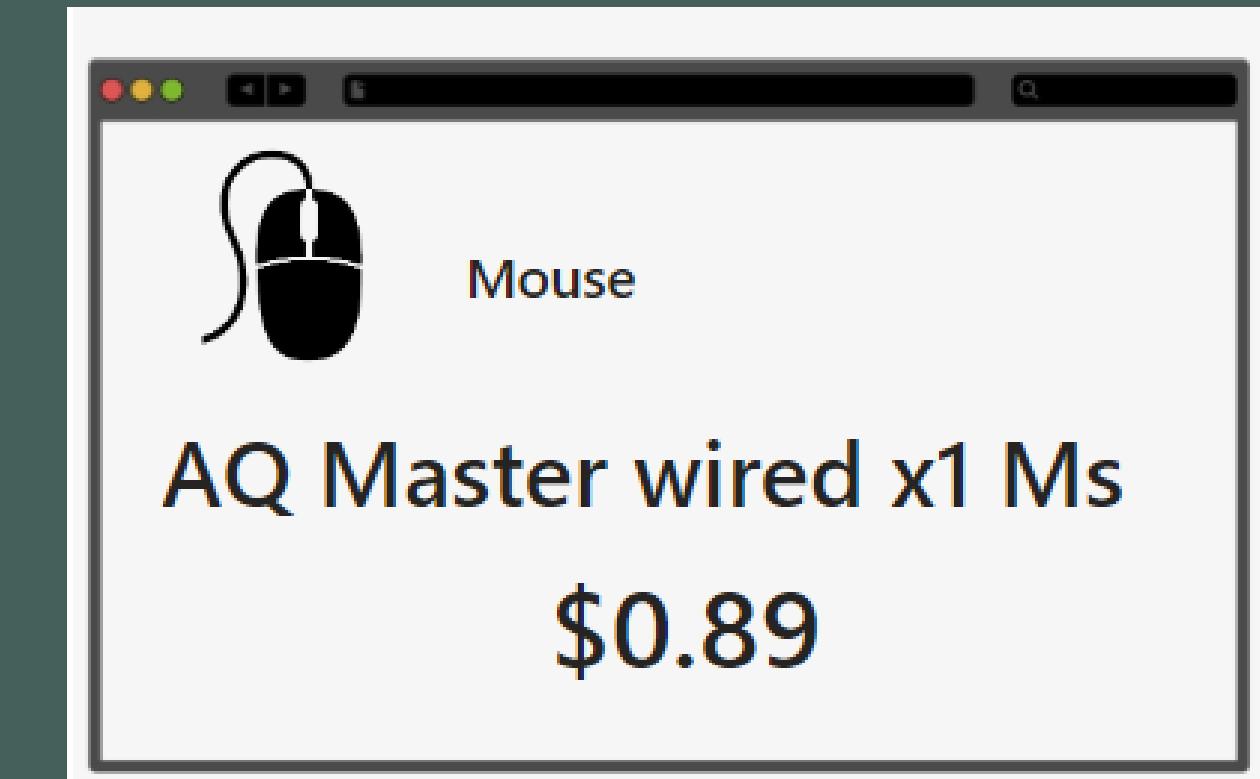
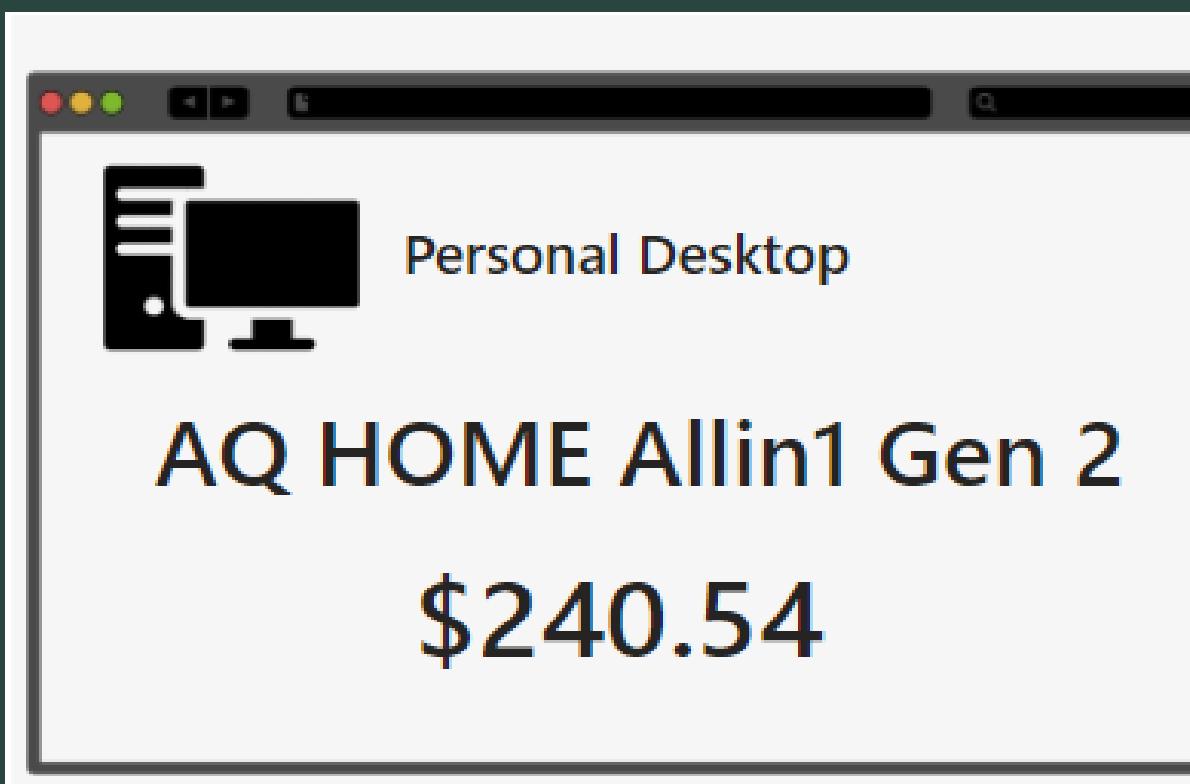
segment	unique_products_2020	unique_products_2021	difference
Accessories	69	103	34
Notebook	92	108	16
Peripherals	59	75	16
Desktop	7	22	15
Storage	12	17	5
Networking	6	9	3
Networkin	6	6	3
Storage	15	15	2



- **Accessories had the highest increase in products.**
- **Desktop, Storage and Networking segments had lower products, but the percentage increase has been on higher side for them.**
- **The company may have identified untapped market opportunities in those segments, thus diversified product portfolio to meet the needs of a broader customer base.**

05 Get the products that have the highest and lowest manufacturing costs

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



- Personal Desktop and Mouse are respectively with highest and lowest manufacturing cost

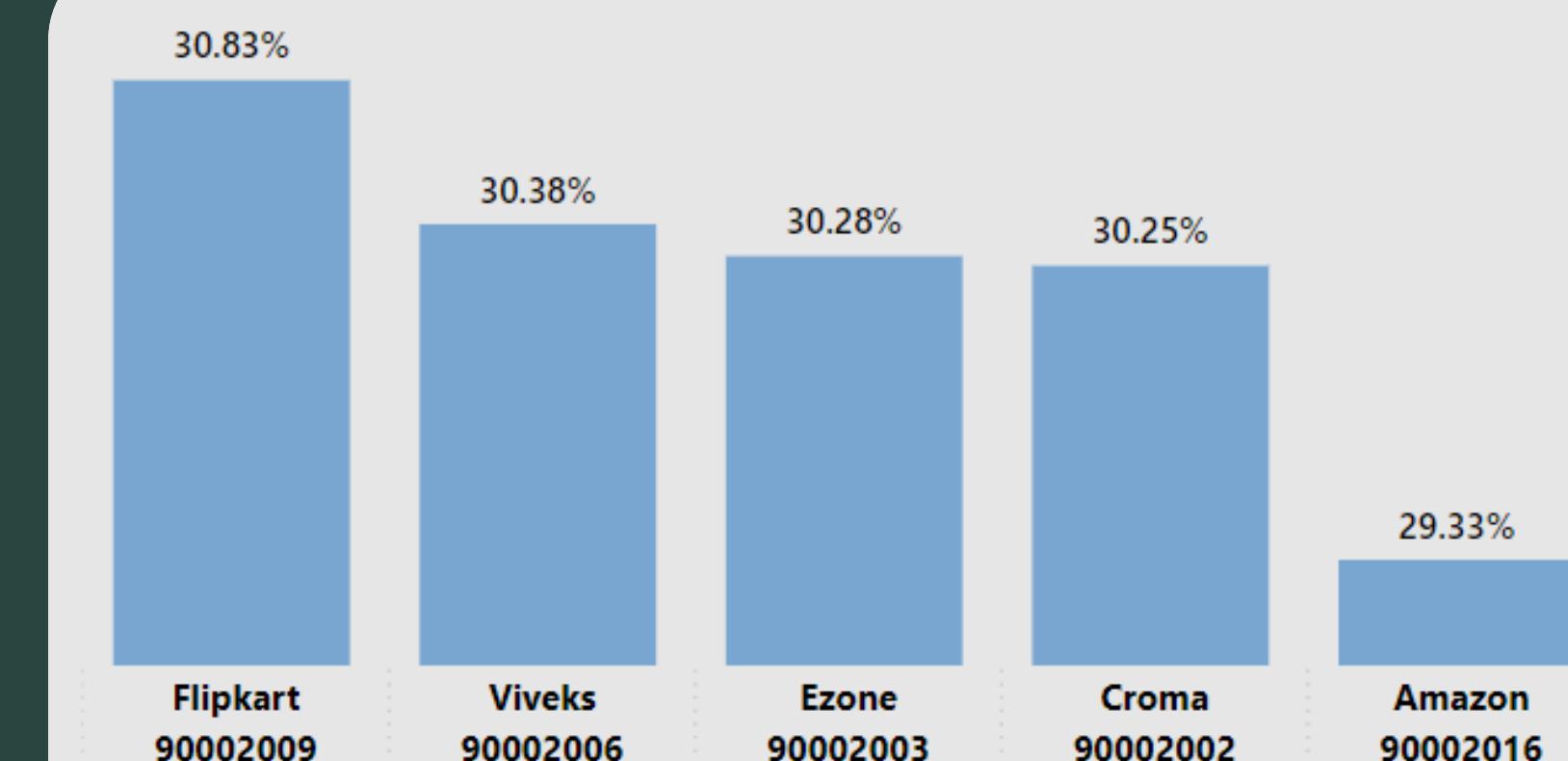
06

Top 5 customers who received an average high pre_invoice_discount_pct for the fiscal year 2021 and in the Indian market.

customer_code	customer	average_discount_percentage
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33

- In 2021, we offered nearly equal pre-invoice discount percentages to each of our top 5 customers in Indian market

- The largest average pre-invoice discount was given to Flipkart



Note : Y-axis scale arranged from min 29% to max 31%

Joint Sales Class Six-Y : Item Mix from General Sales

07

Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month.

- The lowest Gross sales for both fiscal years is in March(2020)

FY 2020

Month	fiscal_year	Gross_sales_Amount_mln
Sep-2019	2020	4.50
Oct-2019	2020	5.14
Nov-2019	2020	7.52
Dec-2019	2020	4.83
Jan-2020	2020	4.74
Feb-2020	2020	4.00
Mar-2020	2020	0.38
Apr-2020	2020	0.40
May-2020	2020	0.78
Jun-2020	2020	1.70
Jul-2020	2020	2.55
Aug-2020	2020	2.79

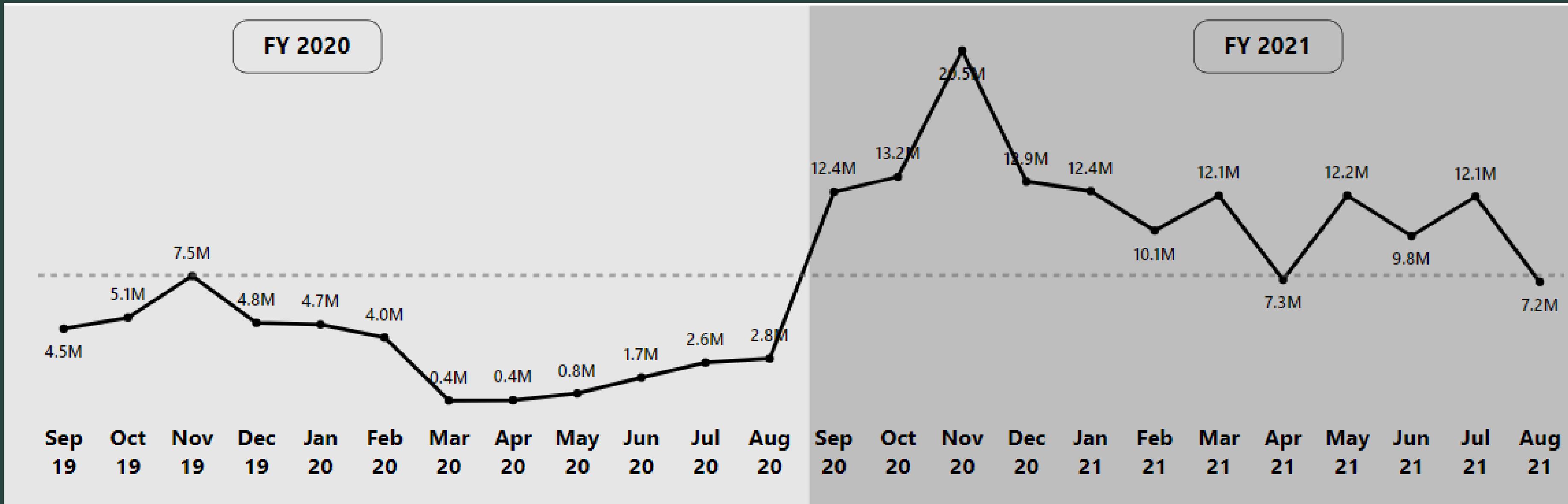
- The highest Gross sales for both fiscal years is in November (2020)

FY 2021

Sep-2020	2021	12.35
Oct-2020	2021	13.22
Nov-2020	2021	20.46
Dec-2020	2021	12.94
Jan-2021	2021	12.40
Feb-2021	2021	10.13
Mar-2021	2021	12.14
Apr-2021	2021	7.31
May-2021	2021	12.15
Jun-2021	2021	9.82
Jul-2021	2021	12.09
Aug-2021	2021	7.18

07

Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month.

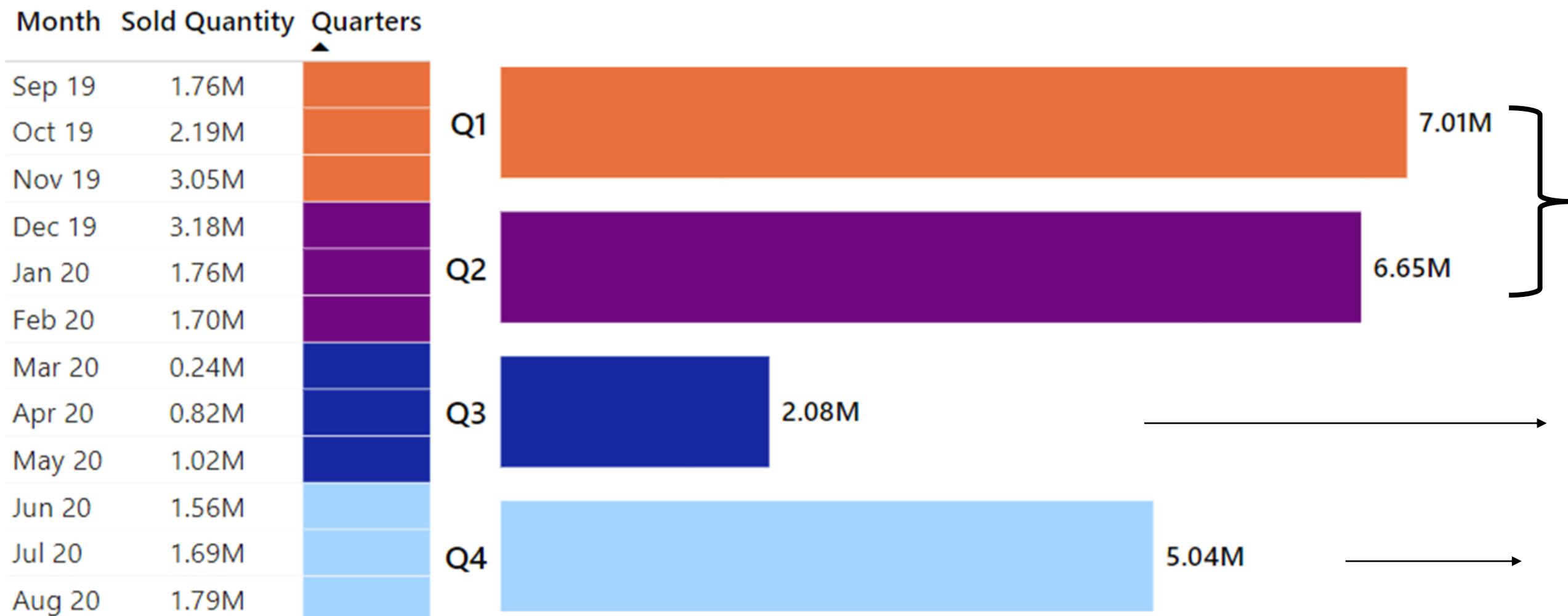


- As soon as we enter FY 2021 we could see the recovery as sales being above average line
- FY 2020 has been severely affected by Covid-19
- Gross Sales have been consistently below the average line

08 In which quarter of 2020, got the maximum total_sold_quantity?

Quarter	total_sold_quantity_mln
Q1	7.01
Q2	6.65
Q4	5.04
Q3	2.08

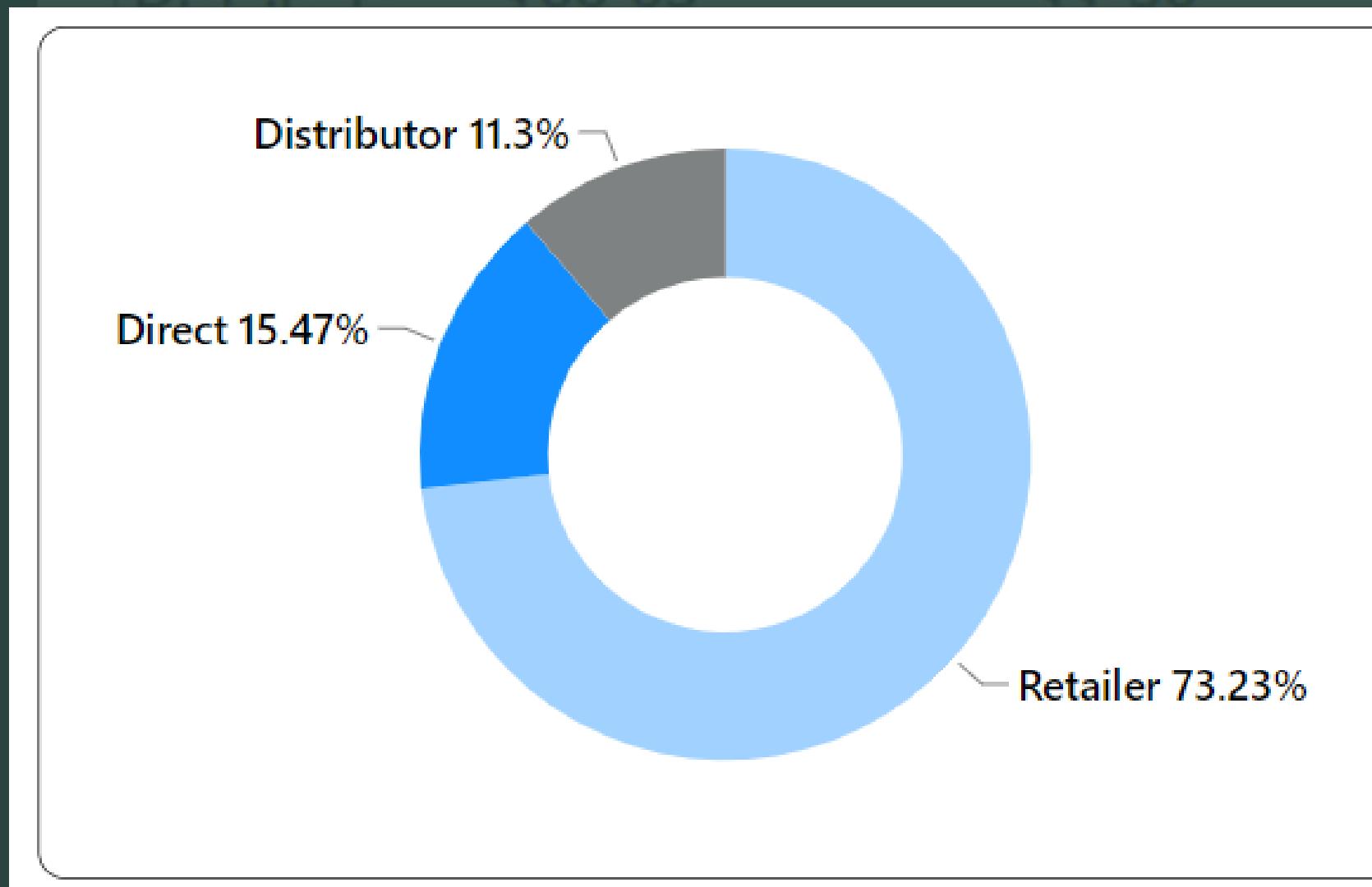
- Quarter 1 of FY2020 saw the most units sold overall, while Quarter3 had the fewest.



- Before Covid-19 boom period
- Lockdown effect
- Post Lockdown recovery

09 Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution?

channel	gross_sales_mln	percentage
Retailer	1219.08	73.23
Direct	257.53	15.47
Distributor	188.03	11.30



- Proper Retailer Onboarding has lead to much better market coverage and increase in sales
- Clearly outlined rewards & incentive programs would help in performance of Distributors and Direct channel

10

Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

division	product_code	product	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	701373	1
N & S	A6818160202	AQ Pen Drive DRC	688003	2
N & S	A6819160203	AQ Pen Drive DRC	676245	3
P & A	A2319150302	AQ Gamers Ms	428498	1
P & A	A2520150501	AQ Maxima Ms	419865	2
P & A	A2520150504	AQ Maxima Ms	419471	3
PC	A4218110202	AQ Digit	17434	1
PC	A4319110306	AQ Velocity	17280	2
PC	A4218110208	AQ Digit	17275	3

- You can notice similar product names in a particular division
- That's because of different variants of same product

bC	A4518110508	AQ Digit	17512	3
bC	A4518110509	AQ Velocity	17580	5

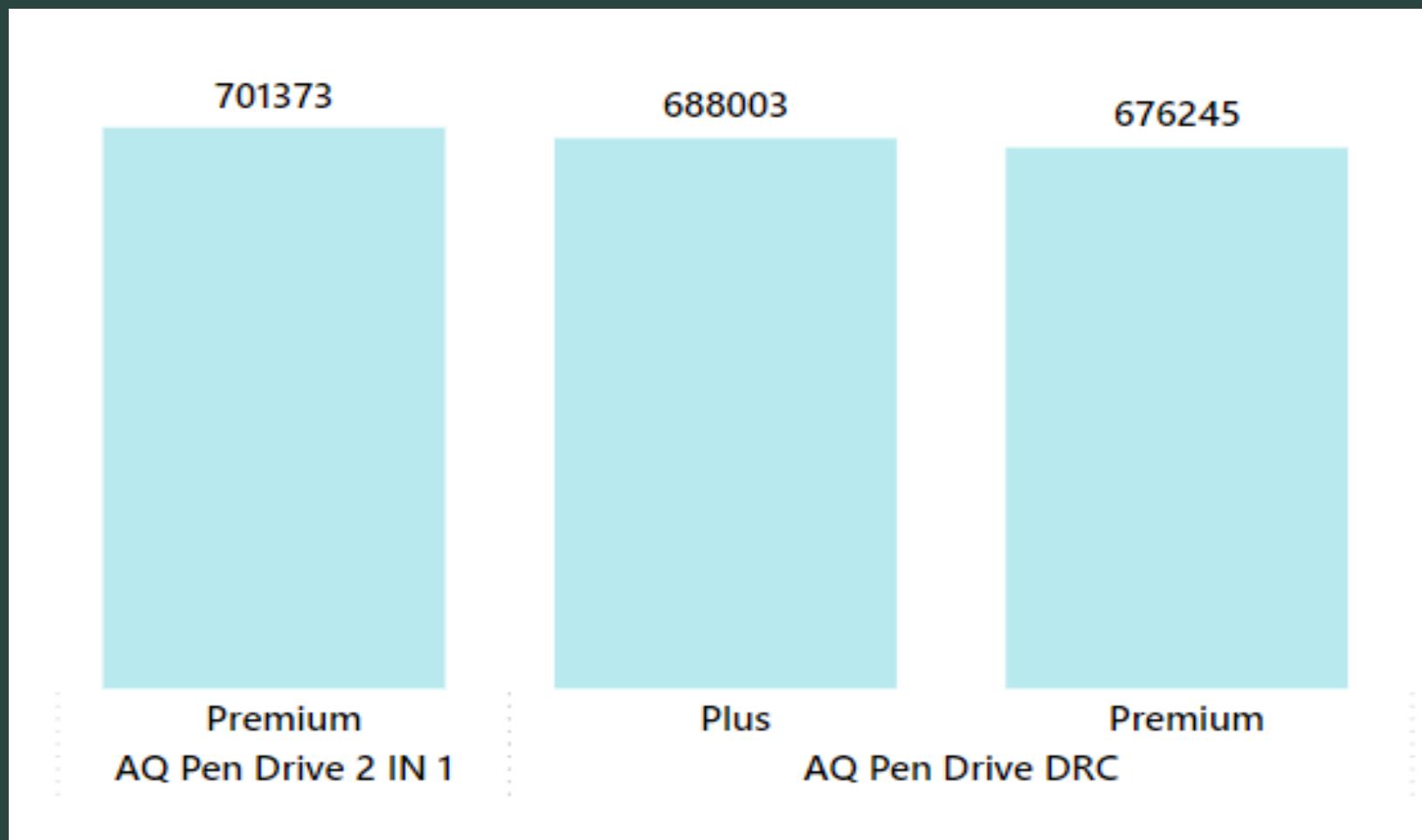
division	product_code	product	variant	total_sold_quantity	rank_order
N & S	A6720160103	AQ Pen Drive 2 IN 1	Premium	701373	1
N & S	A6818160202	AQ Pen Drive DRC	Plus	688003	2
N & S	A6819160203	AQ Pen Drive DRC	Premium	676245	3
P & A	A2319150302	AQ Gamers Ms	Standard 2	428498	1
P & A	A2520150501	AQ Maxima Ms	Standard 1	419865	2
P & A	A2520150504	AQ Maxima Ms	Plus 2	419471	3
PC	A4218110202	AQ Digit	Standard Blue	17434	1
PC	A4319110306	AQ Velocity	Plus Red	17280	2
PC	A4218110208	AQ Digit	Premium Misty Green	17275	3

bC	A4518110508	AQ Digit	Premium Misty Green	17512	3
bC	A4518110509	AQ Velocity	Plus Red	17580	5

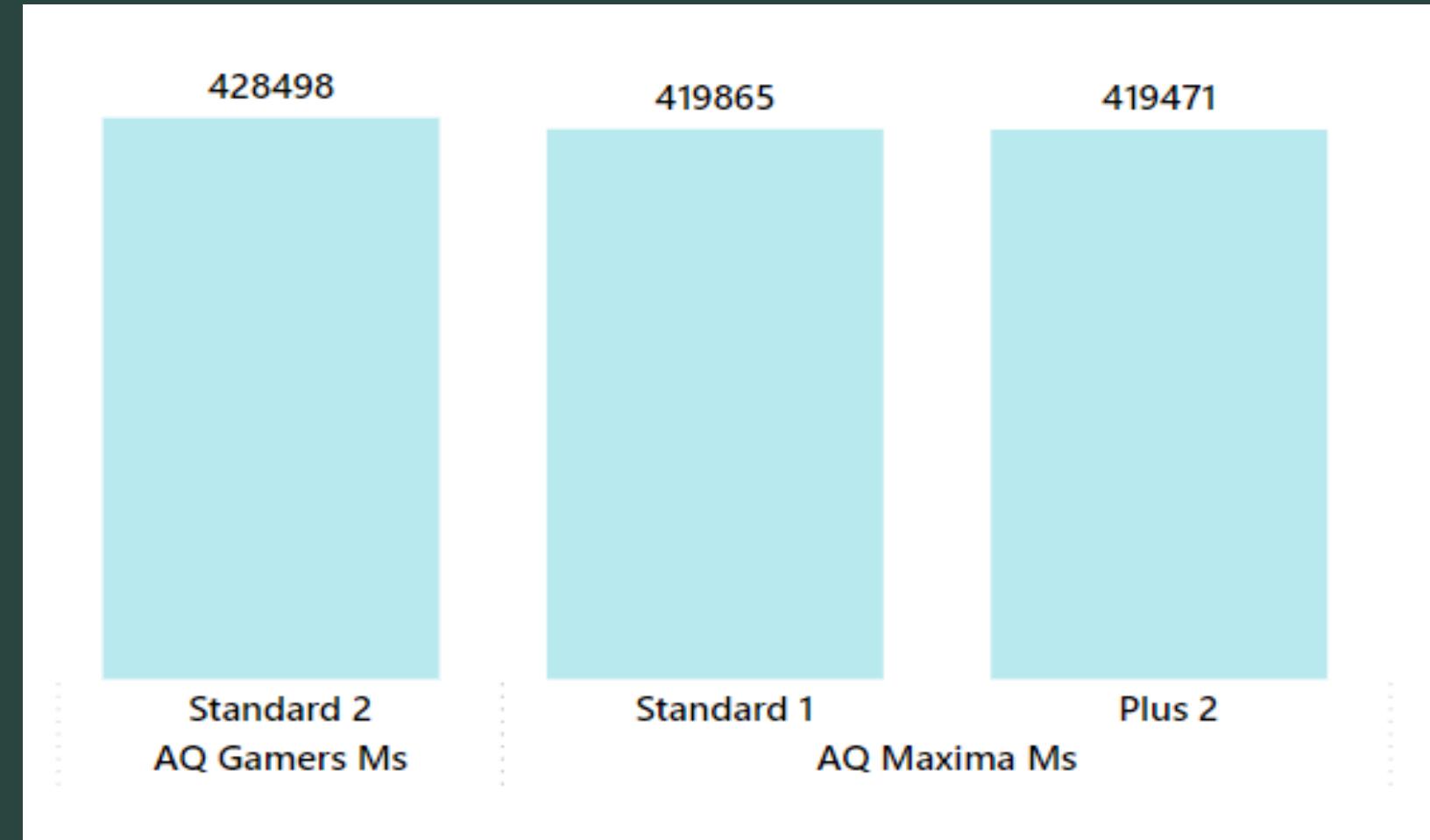
10

Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021?

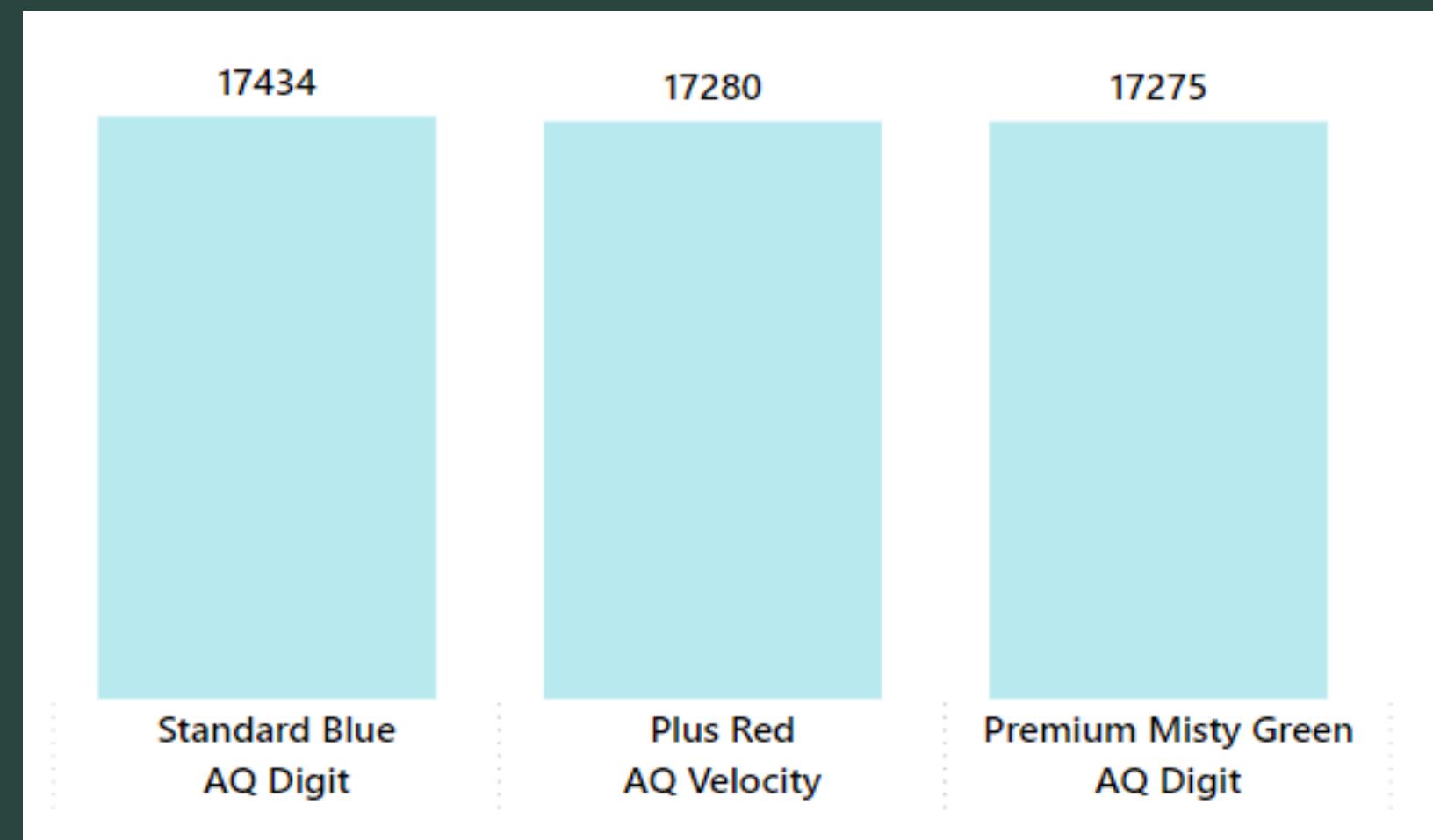
N & S



P A



P C



Technical Learnings

- Wild Card Functions
- Aggregate Functions – Min, Max, Avg, Sum, Distinct
- Text functions(Concat), Number functions(Round)
- Date functions – Monthname, Year(),
- Joins, CTE, Subqueries
- Group By , Having Clause
- Window Functions

Technical Learnings

- **Visuals- Matrix, Map, Bar chart, Line chart, Donut Chart, Cards**
- **Visual Formatting**
- **DAX**
- **Conditional Formatting**
- **Creation of Date table**
- **Data Modelling**

Key Skills

- **Query writing**
- **Data Visualization**
- **Insight generation**
- **Trend Identification**
- **Communication**

THANK YOU!

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