



AtliQ Hardwares

SQL Resume Project

CONSUMER GOODS AD-HOC INSIGHTS

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Agenda

01	Overview/Context
02	Company Global Market
03	Company product line
04	Data Familiarization
05	Ad-Hoc-Analysis



Overview / Context

Company Overview

Atliq Hardwares (imaginary company) is one of the leading computer hardware producers in India and well expanded in other countries too.

Project Objective

The management noticed that they do not get enough insights to make quick and smart data-informed decisions. To address this, they have decided to expand their data analytics team by hiring several junior data analysts.

Task Overview

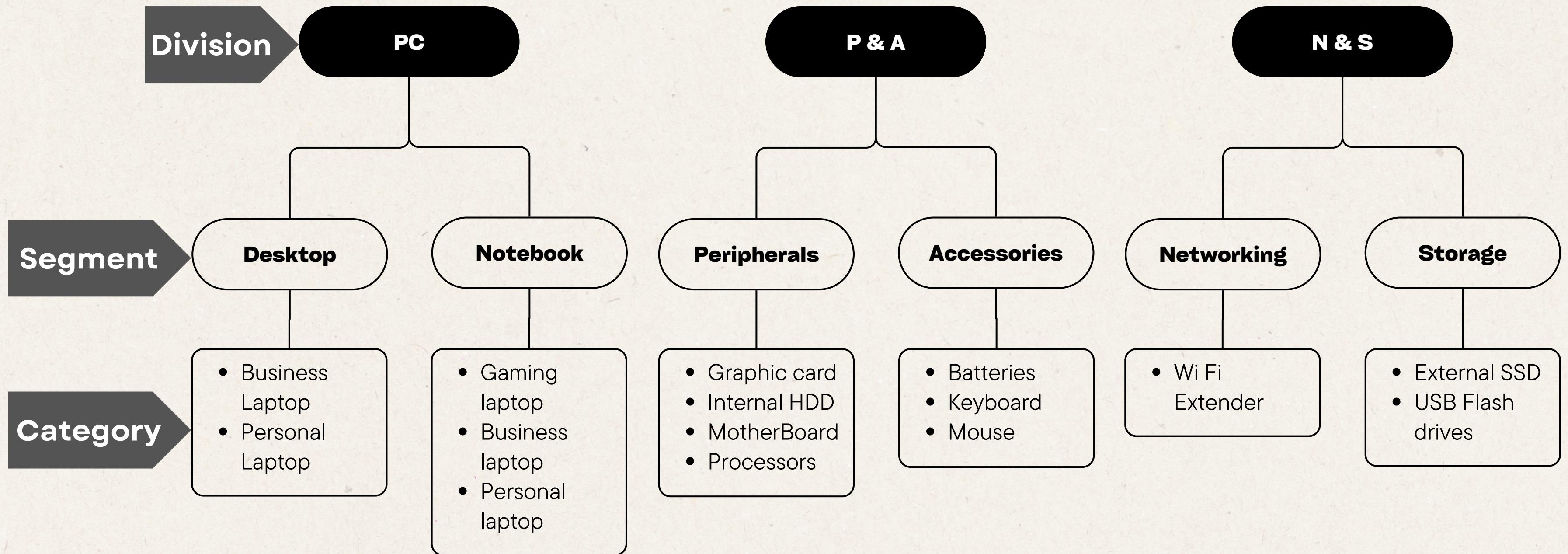
The goal is to provide the management with deeper insights into their operations through data analysis.

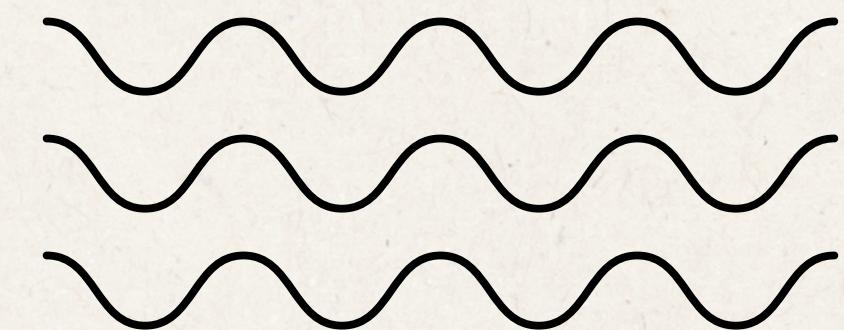
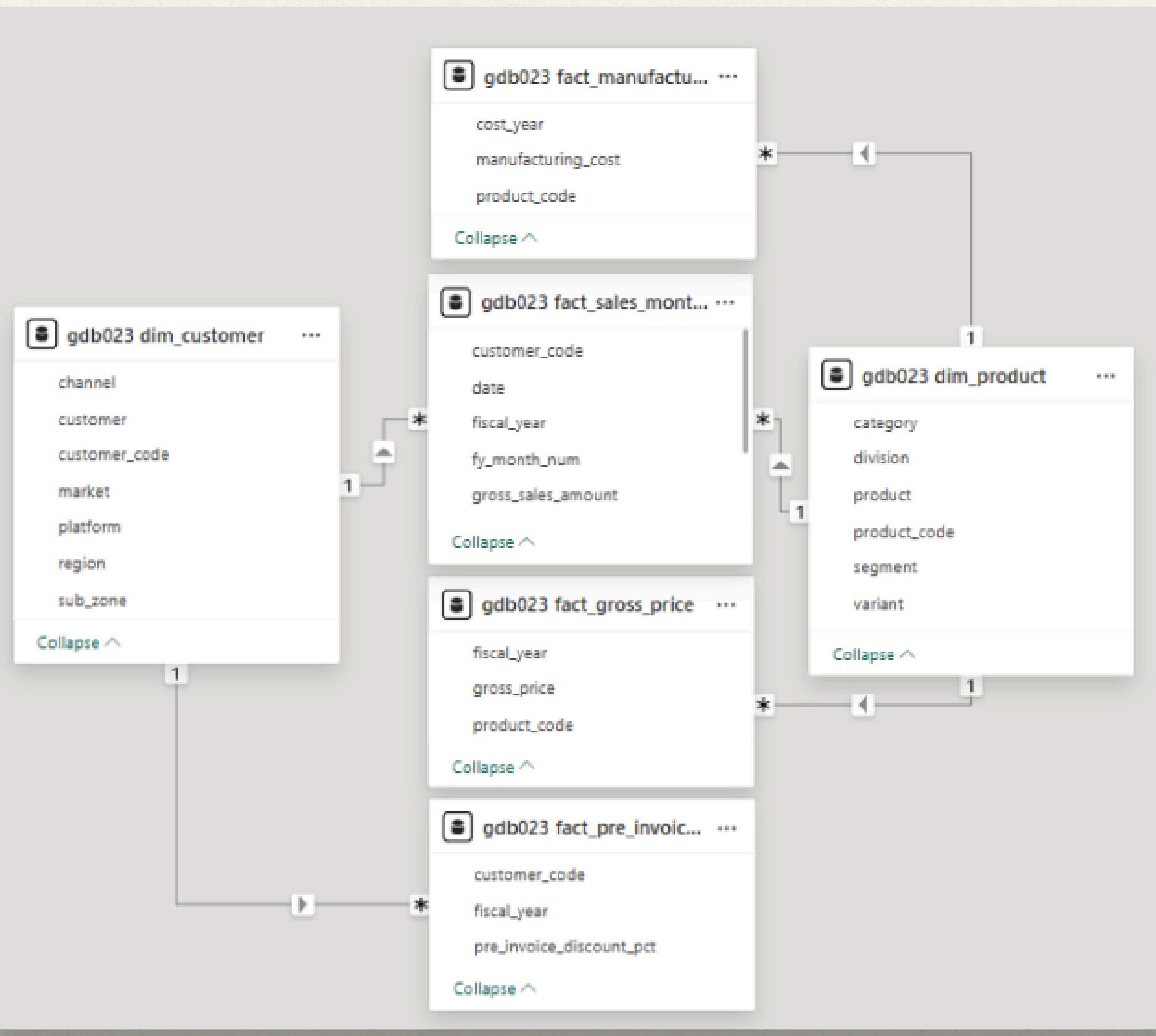
- Address 10 ad hoc business requests using SQL queries.
- Derive insights from the ad hoc requests.

Company Global Market



Company Product Line





Data Familiarization

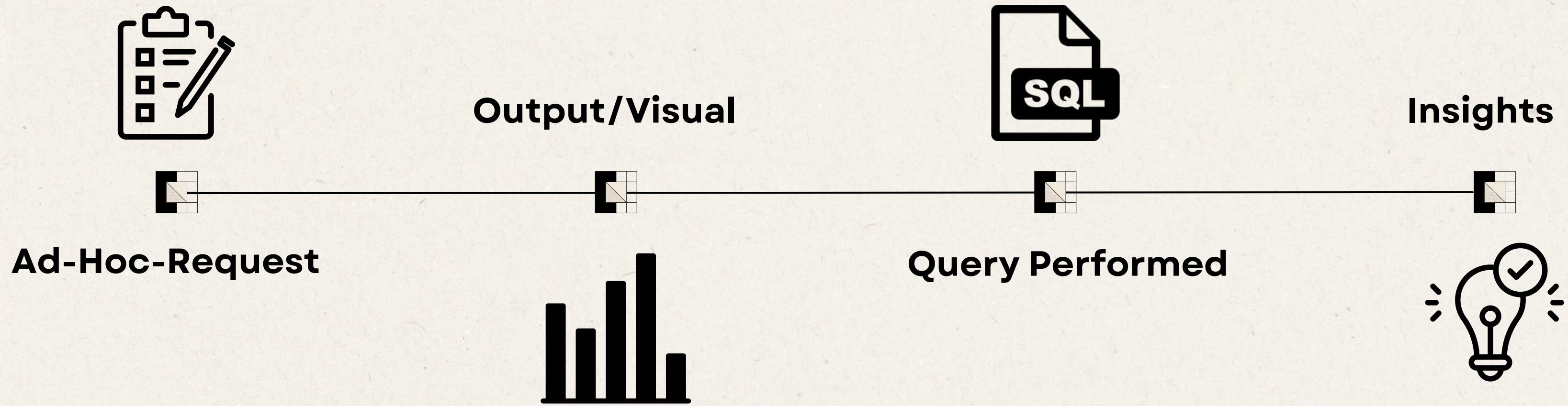
- Fact Tables and Dimension table of the input data.
- Input data consists of sales data for FY 2020 and FY 2021

Tool Used

PowerBI & MySQL



Ad-Hoc-Analysis

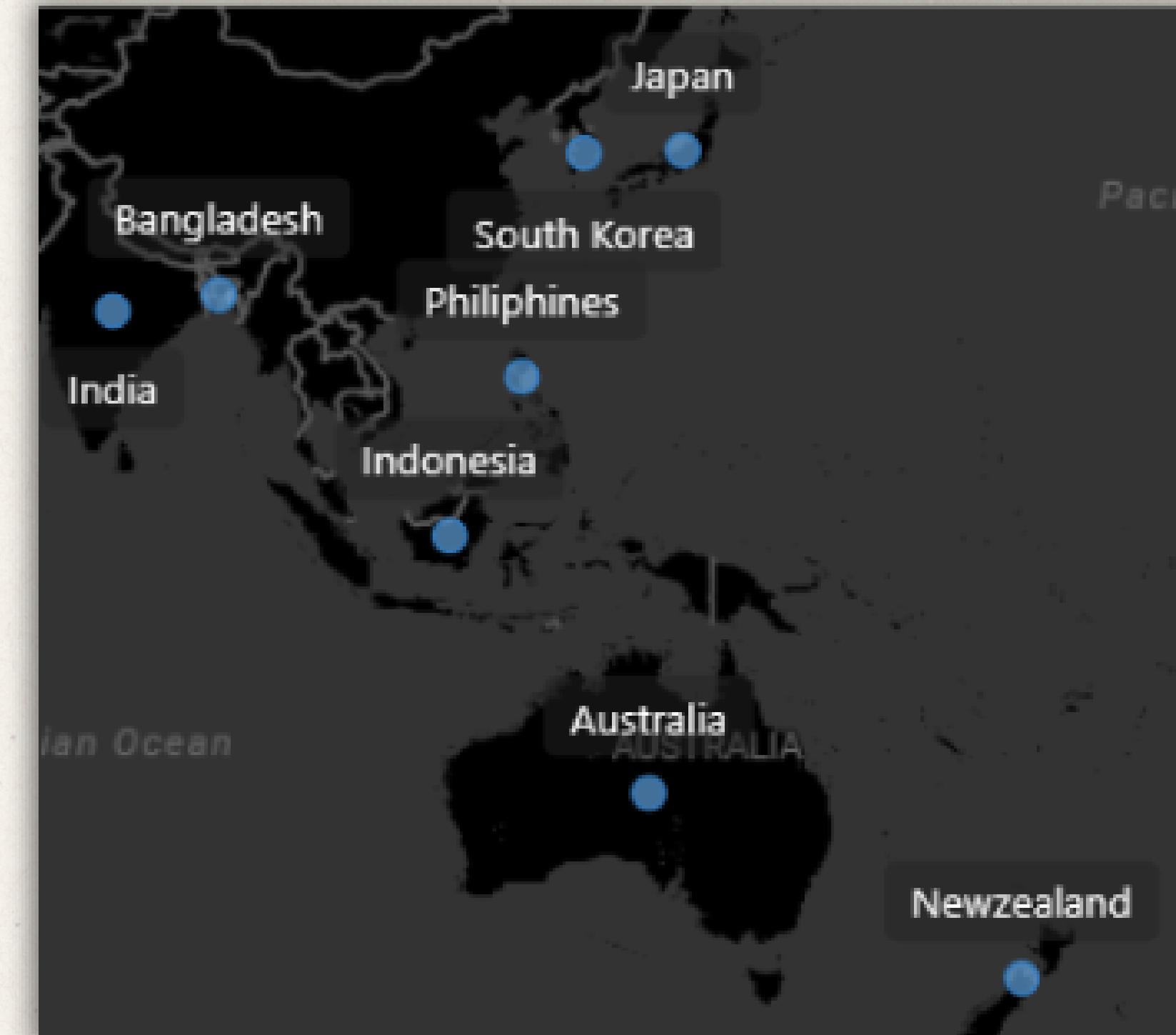


Request #1

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

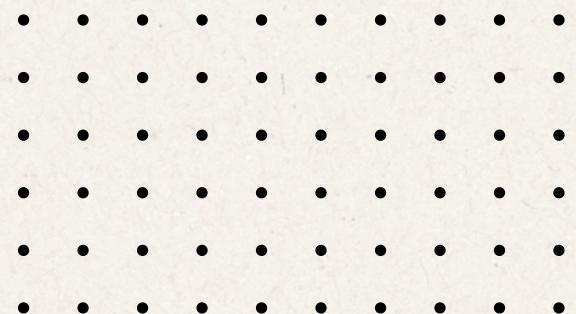
Output/Visual

market
India
Indonesia
Japan
Philippines
South Korea
Australia
Newzealand
Bangladesh



Query

```
...  
select distinct(market)  
from dim_customer  
where region = "APAC" and customer = "Atliq Exclusive";
```

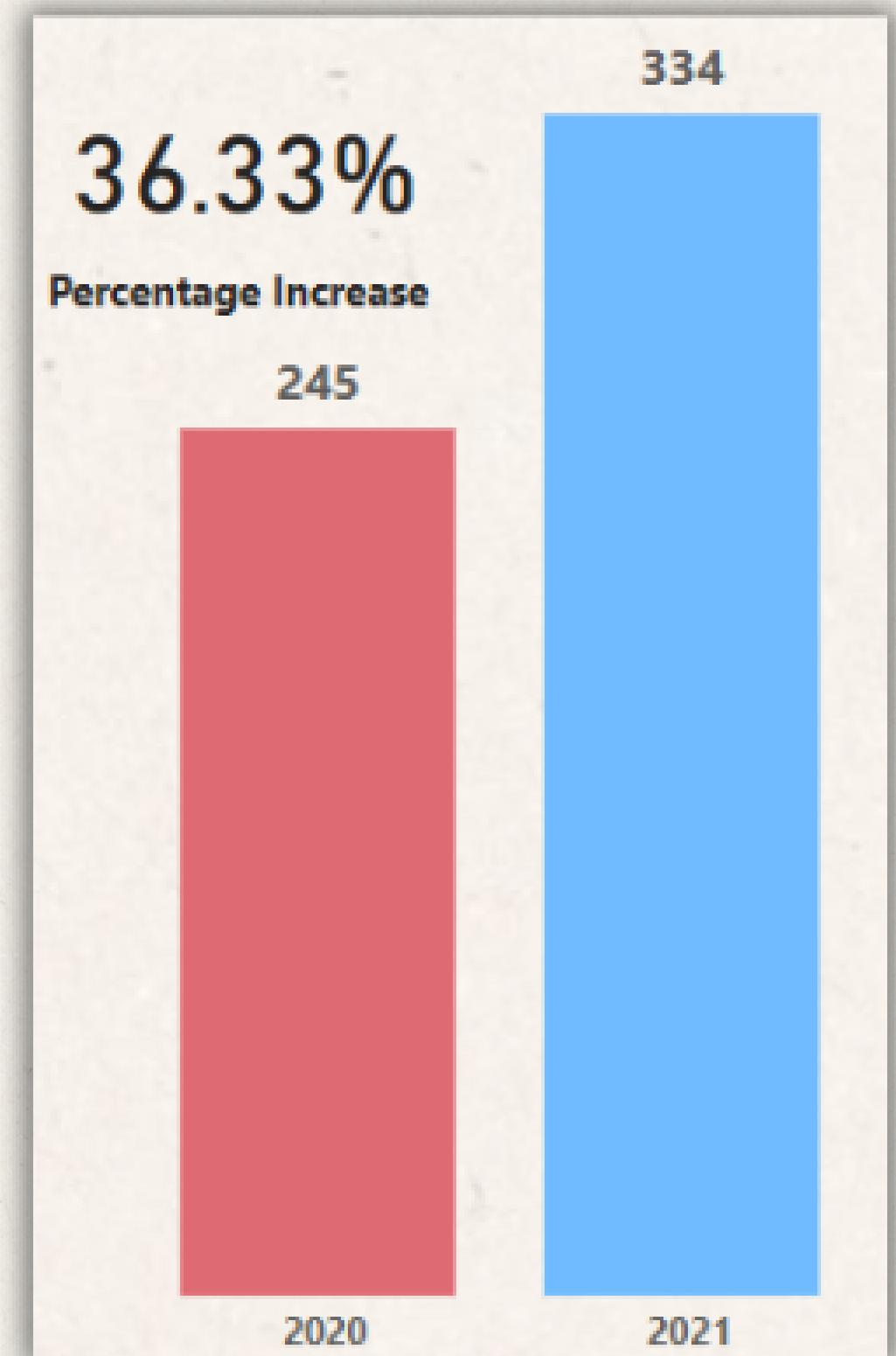


Request #2

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

Output/Visual

	unique_products_2020	unique_products_2021	percentage_chg
▶	245	334	36.33

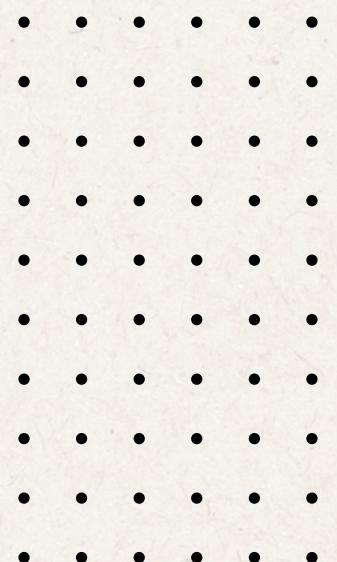


Query

```
...  
  
with cte1 as(  
    select count(distinct(product_code)) as unique_products_2020  
    from fact_sales_monthly  
    where fiscal_year = 2020),  
  
cte2 as(  
    select count(distinct(product_code)) as unique_products_2021  
    from fact_sales_monthly  
    where fiscal_year = 2021)  
  
select *, round(abs(unique_products_2021 - unique_products_2020)*100 / unique_products_2020, 2)  
as percentage_chg  
from cte1, cte2;
```

Insight

With a 36.33% increase in new products, AtliQ Hardware is dynamically meeting evolving customer needs, leading to significant demand and production growth.

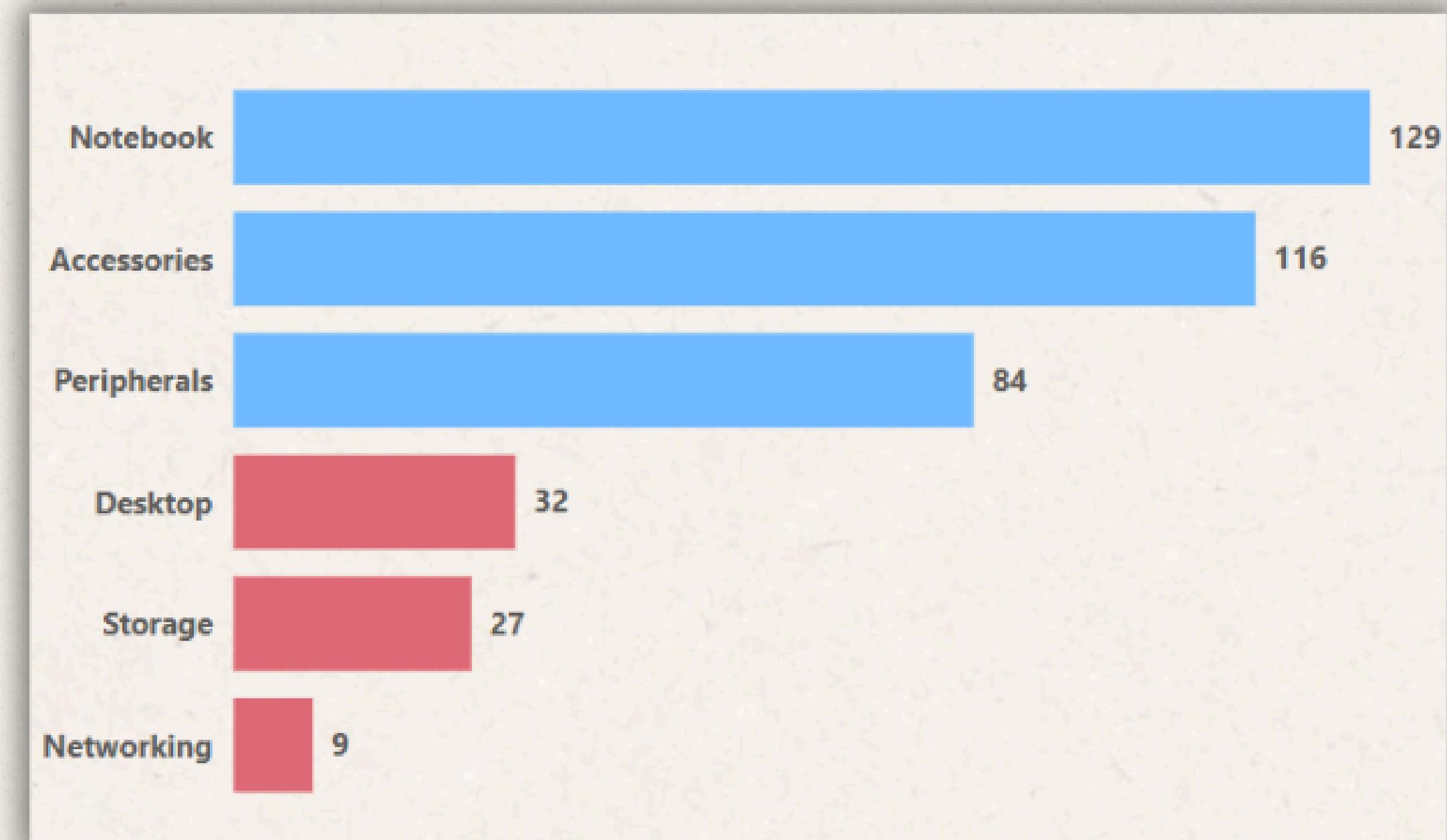


Request #3

Provide a report with all the unique product counts for each segment and sort them in descending order of product counts.

Output/Visual

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



Query

```
select  
    distinct(segment),  
        count(*) as product_count  
from dim_product  
group by segment  
order by product_count desc;
```

.....
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.....
.....
.....

Insight

Notebooks, accessories, and peripherals, constituting 83% of total manufacturing compared to desktops, storage, and networking.

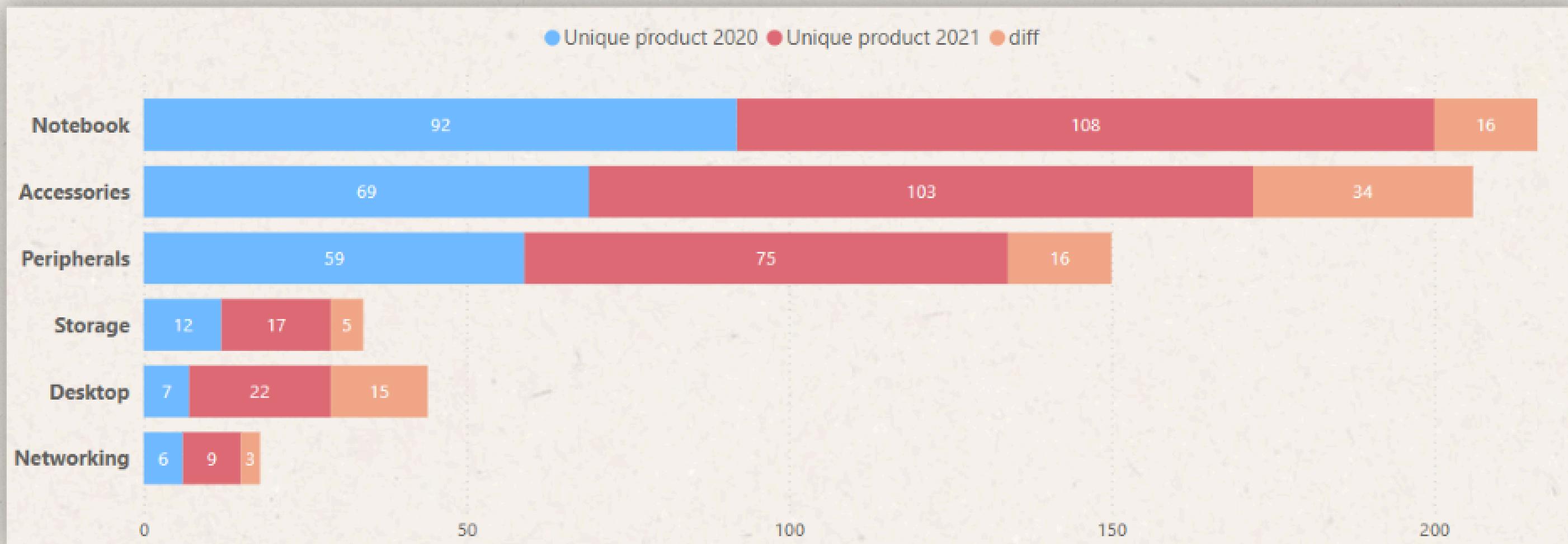
To diversify, we need to expand production in the latter segments.

Request #4

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

Output/Visual

	segment	product_count_2020	product_count_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



Query

```
with cte1 as(
    select
        p.segment, count(distinct(s.product_code)) product_count_2020
    from fact_sales_monthly s
    join dim_product p
    using (product_code)
    where s.fiscal_year = 2020
    group by p.segment),
cte2 as (
    select
        p.segment, count(distinct(s.product_code)) product_count_2021
    from fact_sales_monthly s
    join dim_product p
    using (product_code)
    where s.fiscal_year = 2021
    group by p.segment)

select cte1.segment,product_count_2020,product_count_2021, (product_count_2021 -
product_count_2020) as difference
from cte1,cte2
where cte1.segment = cte2.segment
order by difference desc;
```

Insight

Accessories saw the largest growth with **34** new products, while notebooks and peripherals added **16** each. Despite the desktop segment's notable rise from **7 to 22** products, networking and Storage lags with only **3 and 5** new additions respectively since 2020, highlighting the need for focus on storage and networking.

Request #5

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

Output/Visual

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

AQ HOME Allin1 Gen 2
product
240.54
max_mnf_cost
Personal Desktop
category

AQ Master wired x1 Ms
product
0.89
min_mnf_cost
Mouse
category

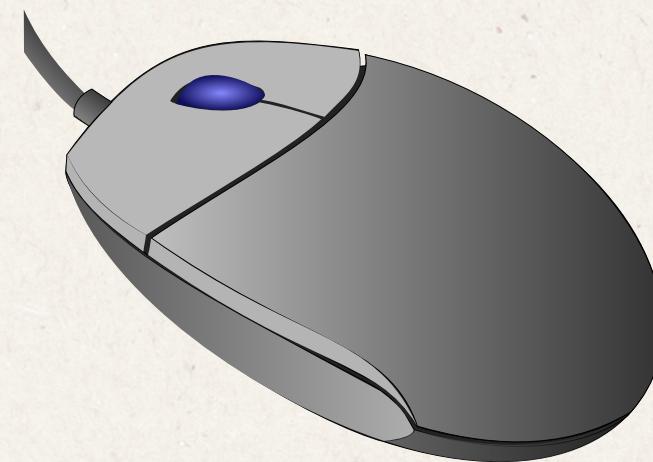
Query

```
select
    p.product_code,
    p.product,
    m.manufacturing_cost
from dim_product p
join fact_manufacturing_cost m
using (product_code)
where manufacturing_cost=(select max(manufacturing_cost)
from fact_manufacturing_cost) or
manufacturing_cost=(select min(manufacturing_cost)
from fact_manufacturing_cost)
order by manufacturing_cost desc;
```

Insight



AQ HOME Allin1 Gen 2
Personal Desktop



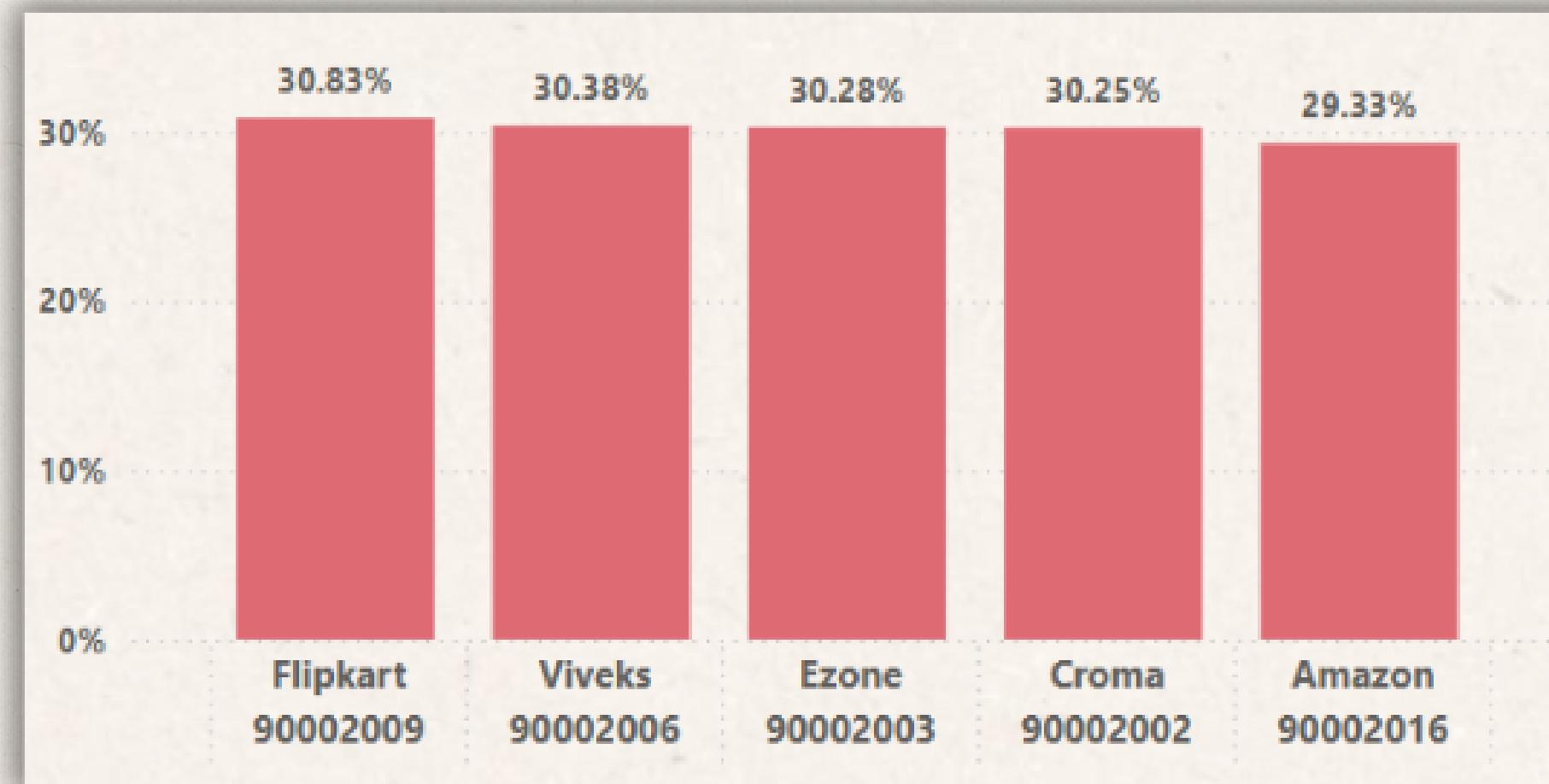
AQ Master wired x1 Ms
Mouse

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 Indian market.

Output/Visual

	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



Query

```
...  
select  
    i.customer_code, c.customer, round(avg(pre_invoice_discount_pct)*100,2) as  
        average_discount_percentage  
from fact_pre_invoice_deductions i  
join dim_customer c  
using (customer_code)  
where fiscal_year = 2021 and market = "India"  
group by i.customer_code, c.customer  
order by average_discount_percentage desc limit 5;  
....
```

Insight

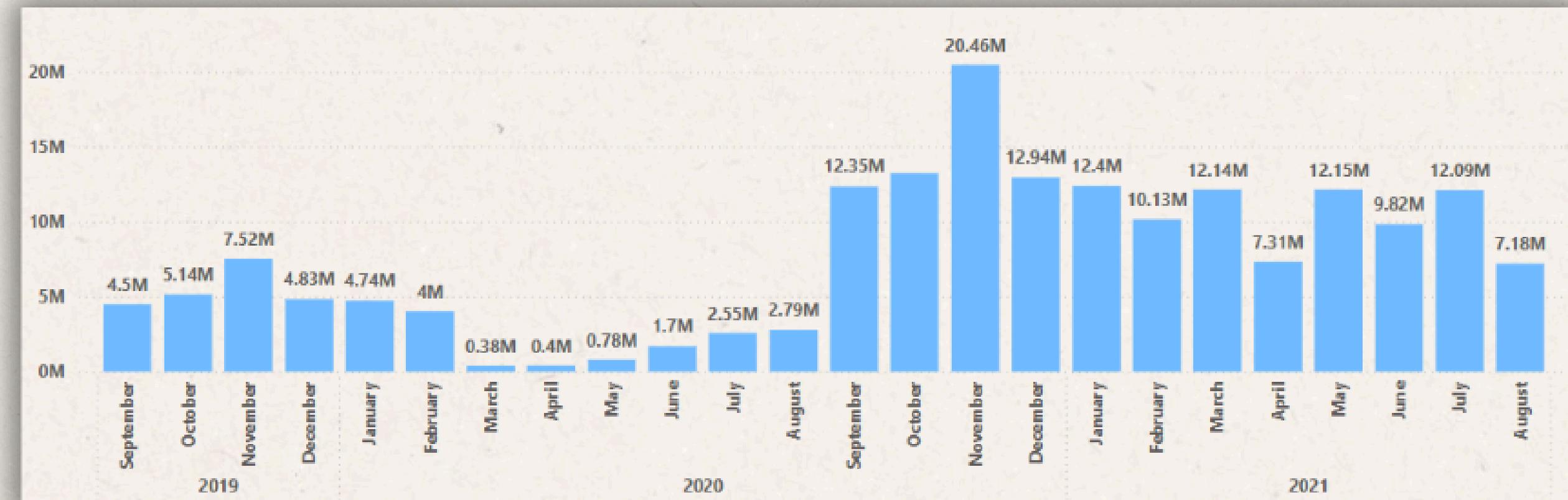
In 2021, our top 5 customers received nearly equal pre-invoice discounts, with Flipkart receiving the highest at 30.83%

Request #7

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

Output/Visual

MONTH	YEAR	Gross_sales_Amount
September	2019	4.50
October	2019	5.14
November	2019	7.52
December	2019	4.83
January	2020	4.74
February	2020	4.00
March	2020	0.38
April	2020	0.40
May	2020	0.78
June	2020	1.70
July	2020	2.55
August	2020	2.79
September	2020	12.35
October	2020	13.22
November	2020	20.46
December	2020	12.94
January	2021	12.40
February	2021	10.13
March	2021	12.14
April	2021	7.31
May	2021	12.15
June	2021	9.82
July	2021	12.09
August	2021	7.18



Query

```
select
    monthname(date) as MONTH,
    year(date) as YEAR,
    round(sum(gross_price * sold_quantity)/1000000,2) as Gross_sales_Amount
from fact_sales_monthly s
join fact_gross_price g
using (fiscal_year, product_code)
join dim_customer c
using (customer_code)
where customer = "Atliq Exclusive"
group by date
order by date, Gross_sales_Amount desc;
```

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Insight

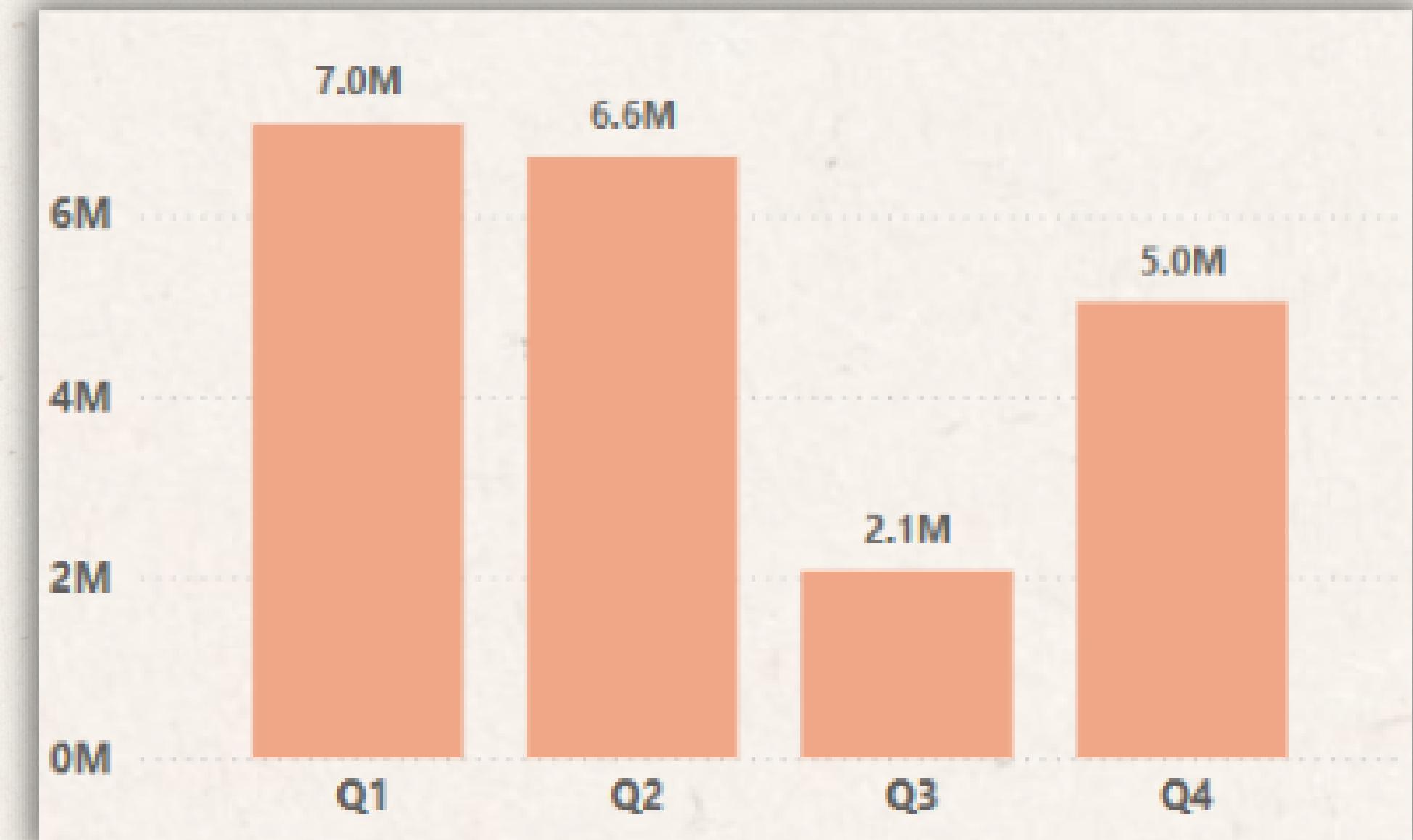
For Atliq Exclusive, the highest sales occurred in November 2020 at \$20.46 million, while the lowest were in March 2020 at \$0.38 million, primarily due to COVID-19. Sales rebounded from September 2020 onward, highlighting recovery post-pandemic and a boost from the festival season.

Request #8

In which quarter of 2020, got the maximum total_sold_quantity?

Output/Visual

Quarter	total_sold_quantity
Q1	7005619
Q2	6649642
Q3	2075087
Q4	5042541



Query

```
select
  case
    when month(date) in (9,10,11) then "Q1"
    when month(date) in (12,1,2) then "Q2"
    when month(date) in (3,4,5) then "Q3"
    else "Q4"
  end as Quarter,
  sum(sold_quantity) as total_sold_quantity
from fact_sales_monthly
where fiscal_year = 2020
group by Quarter;
```

Insight

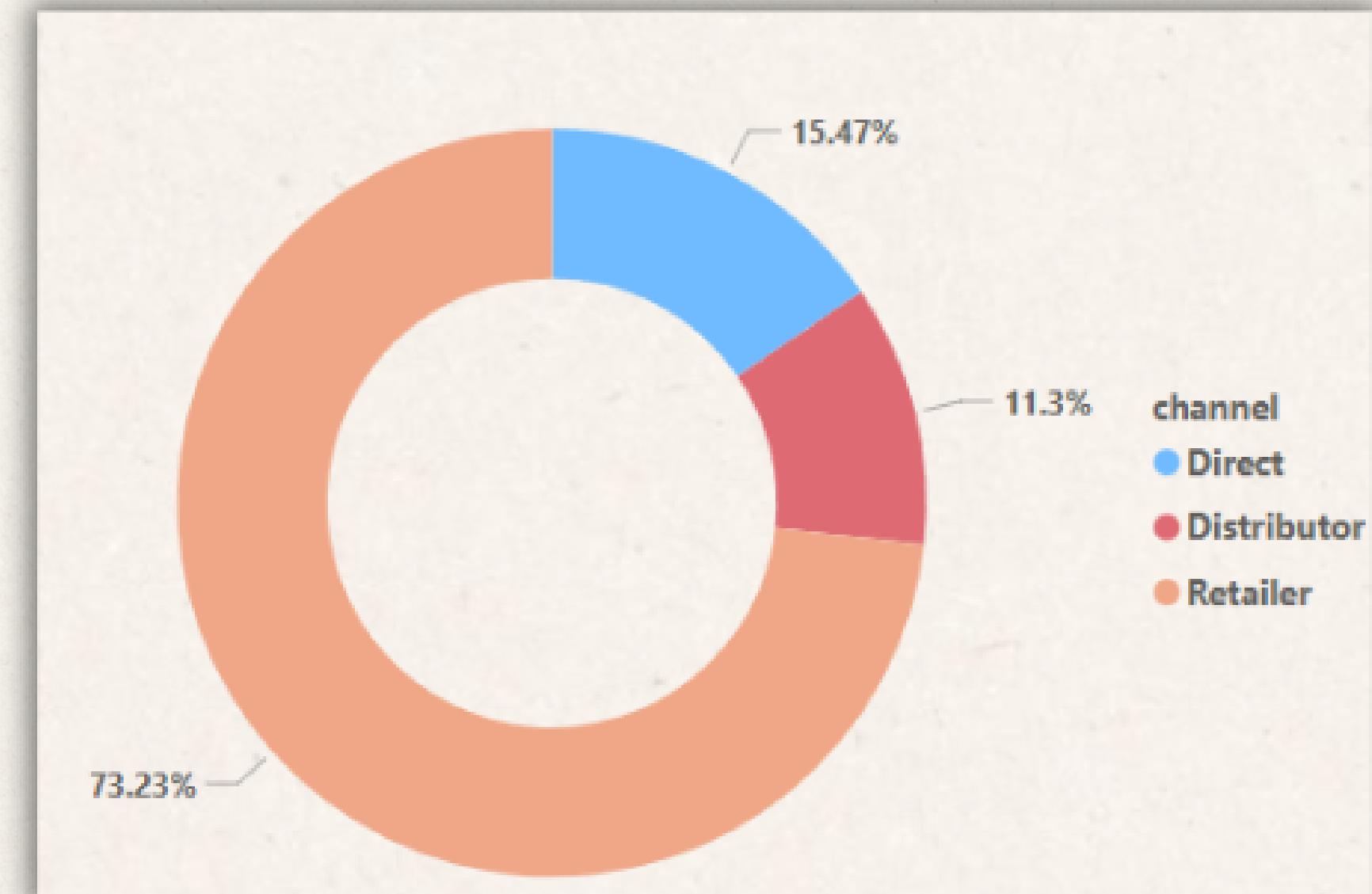
In FY2020, Quarter 1 saw the highest sales, while Quarter 3, impacted by the COVID-19 pandemic, recorded the lowest. The sales rebounded in Quarter 4, driven by increased demand for computer accessories as remote learning surged

Request #9

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

Output/Visual

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



Query

```
with cte1 as(
  select
    channel,
    round(sum(gross_price * sold_quantity)/1000000,2) as Gross_sales_Amount
  from fact_sales_monthly s
  join fact_gross_price g
    using (fiscal_year, product_code)
  join dim_customer c
    using (customer_code)
  where fiscal_year = 2021
  group by channel
  order by Gross_sales_Amount desc)

select
  *,
  round((Gross_sales_Amount*100/ (select sum(Gross_sales_Amount)
    from cte1)),2) as percentage
from cte1;
```

Insight

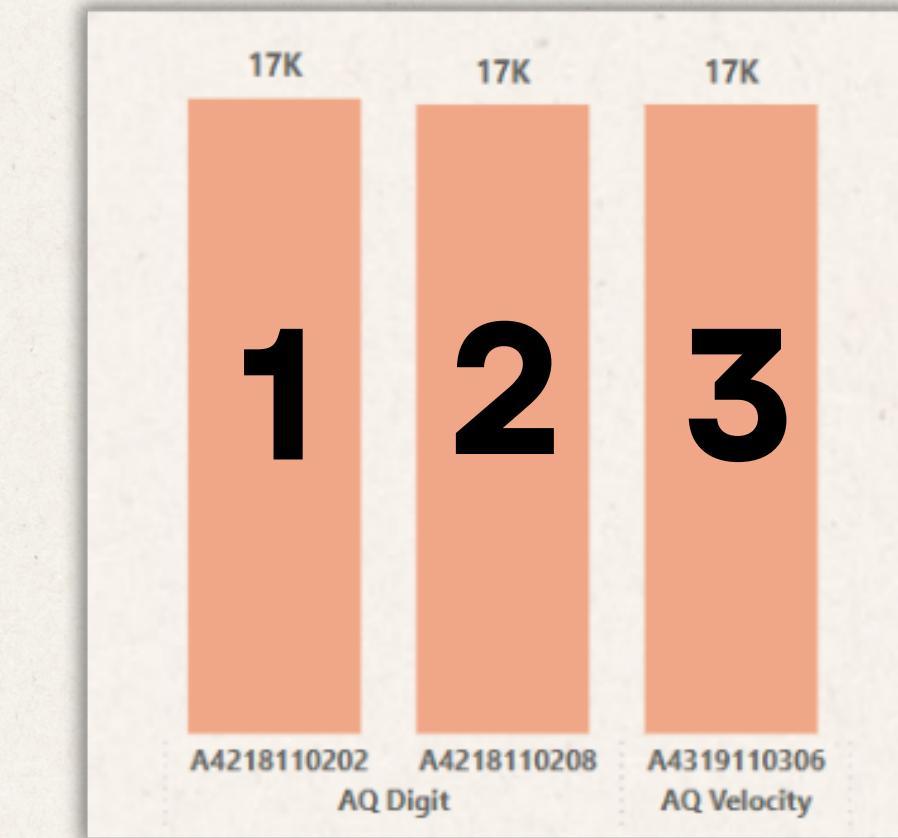
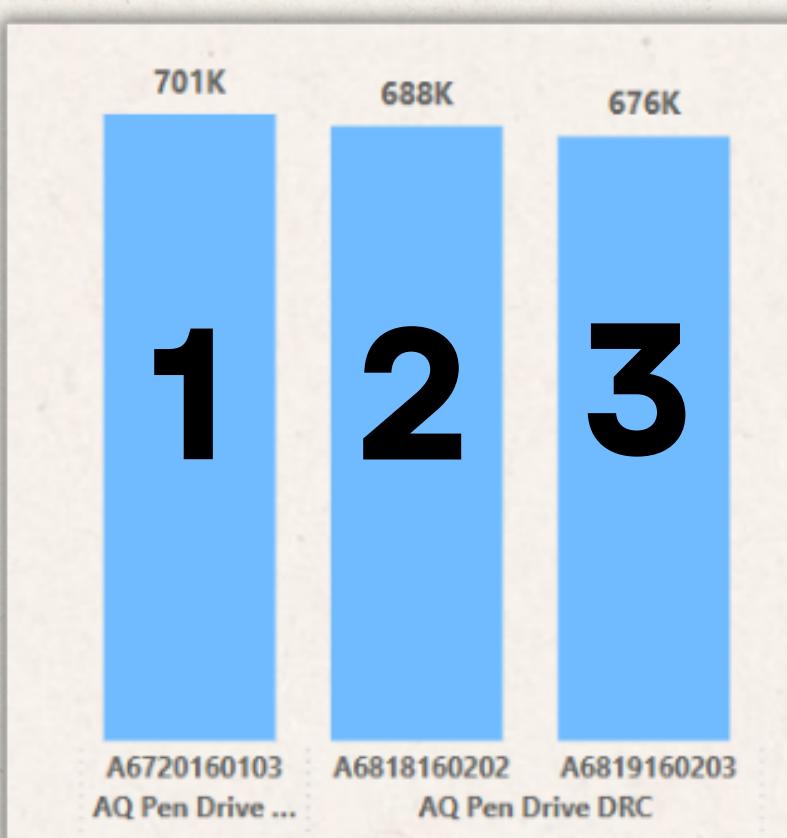
In FY 2021, **retailers** drove the majority of sales, contributing **73.23%** of gross sales, while **distributors** lagged behind with only **11.31%**. Retail channels proved dominant, generating **\$1219.08 million** compared to **\$257.53 million** from **direct sales** and **\$188.03 million** from **distributors**.

Request #10

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

Output/Visual

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



N & S

P & A

PC

Query

```
with cte1 as (
    select
        p.division, s.product_code, p.product,
        sum(sold_quantity) as total_sold_quantity,
        dense_rank() over(partition by division order by sum(sold_quantity) desc
                          as rank_order
        from fact_sales_monthly s
        join dim_product p
        using (product_code)
        where fiscal_year = 2021
        group by p.division, s.product_code, p.product
        order by total_sold_quantity desc)
    select * from cte1
    where rank_order in (1,2,3);
```

Insight

In **FY 2021**, the AQ Pen Drive series led sales in the N&S division, while AQ Gamers Ms dominated P&A, and AQ Digit PC was the top performer for PC. The disparity in PC sales suggests an opportunity for strategic initiatives to boost performance in this division.

Thank you
