



CONSUMER AD-HOC INSIGHTS For AtliQ Hardware

SQL + Power BI Project Presented by: Ritik Mishra

About the Company

AtliQ Hardware is a global manufacturer of computer hardware and accessories. The company has three primary product divisions — Networking & Storage, PCs, and Peripherals & Accessories — and operates across North America, Latin America, Europe, and the Asia-Pacific region.

Business Challenge

As AtliQ continues to grow, management faces difficulty in making quick, informed business decisions. Their current analytics processes are not agile enough to meet ad-hoc decision-making needs across sales, products, and customer segments.

Objective of the Analysis

The goal of this analysis is to answer 10 real-world, ad-hoc business questions using SQL and visualize key patterns in Power BI. These insights will help AtliQ's leadership make smarter, faster decisions across regions and product lines.

Ad-Hoc Requests & Tools

For Ad-Hoc Queries



For Visualization



Ad-Hoc Request



Codebasics SQL Challenge

Requests:

1. Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.
2. What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields,
unique_products_2020
unique_products_2021
percentage_chg
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,
segment
product_count
4. Follow-up: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields,
segment
product_count_2020
product_count_2021
difference
5. Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields,
product_code
product
manufacturing_cost

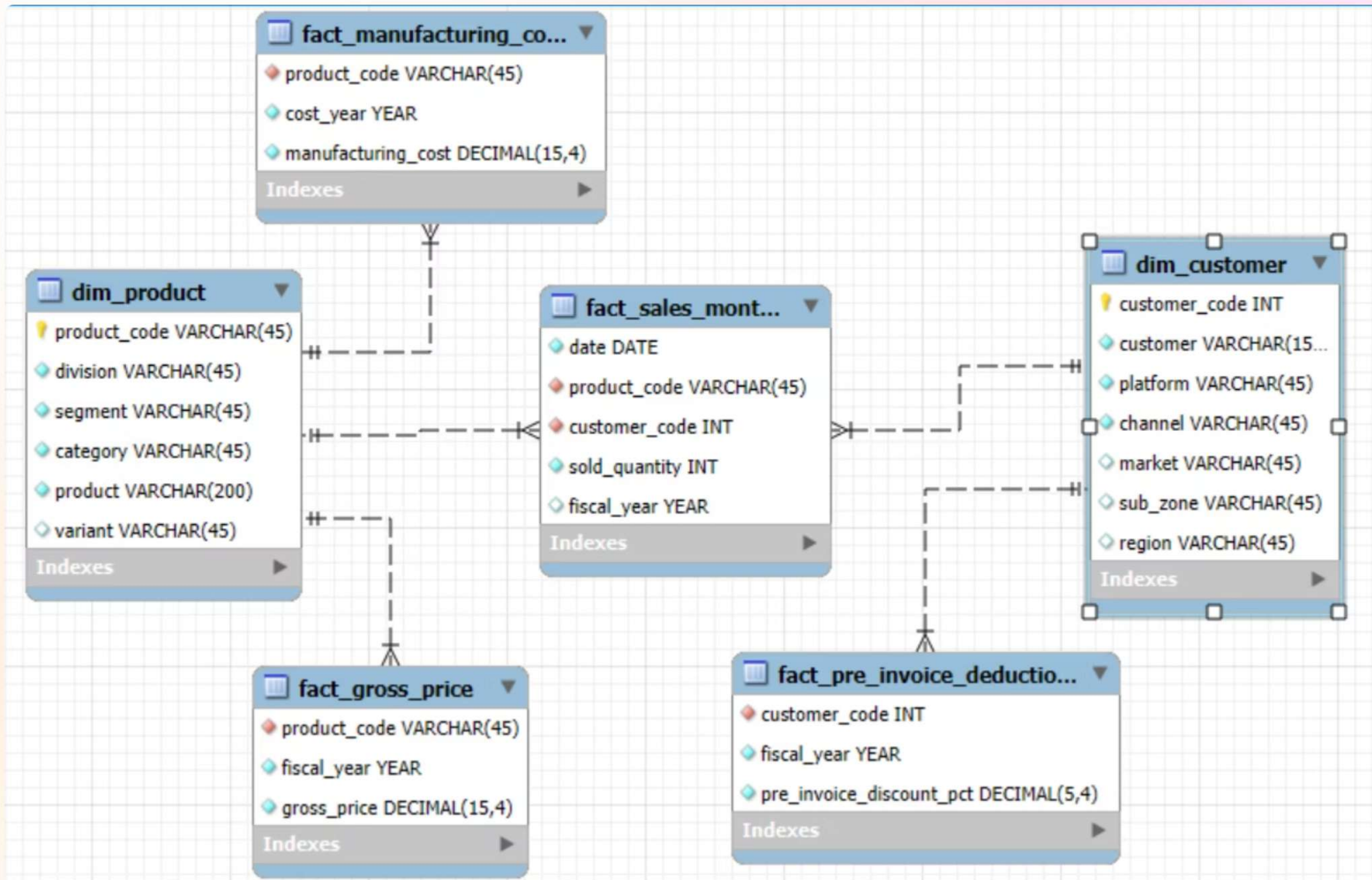
codebasics.io



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. The final output contains these fields,
customer_code
customer
average_discount_percentage
7. Get the complete report of the Gross sales amount for the customer "**Atliq Exclusive**" for each month. This analysis helps to get an idea of low and high-performing months and take strategic decisions.
The final report contains these columns:
Month
Year
Gross sales Amount
8. In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity,
Quarter
total_sold_quantity
9. Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields,
channel
gross_sales_mln
percentage
10. Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields,
division
product_code

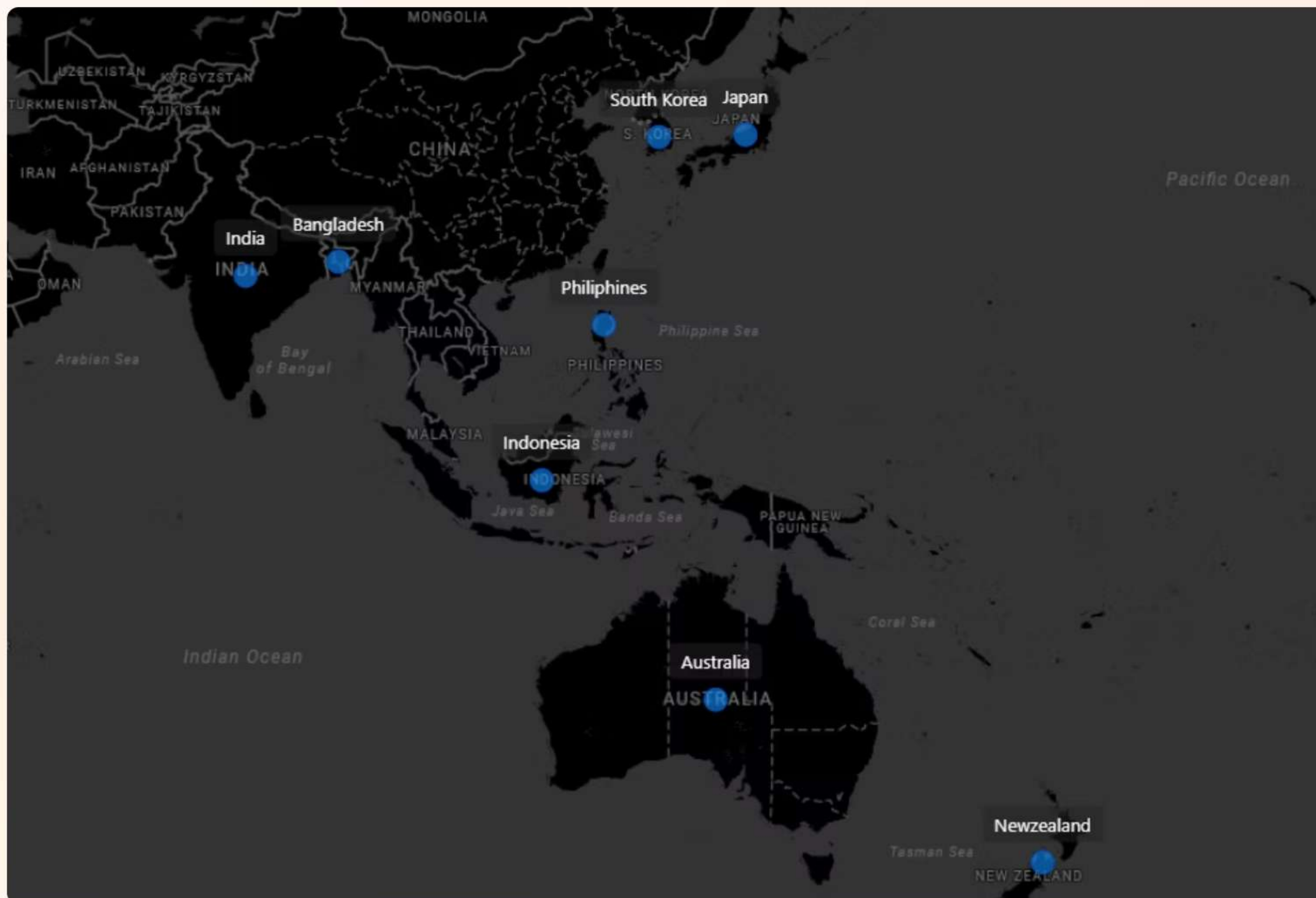
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Data Model



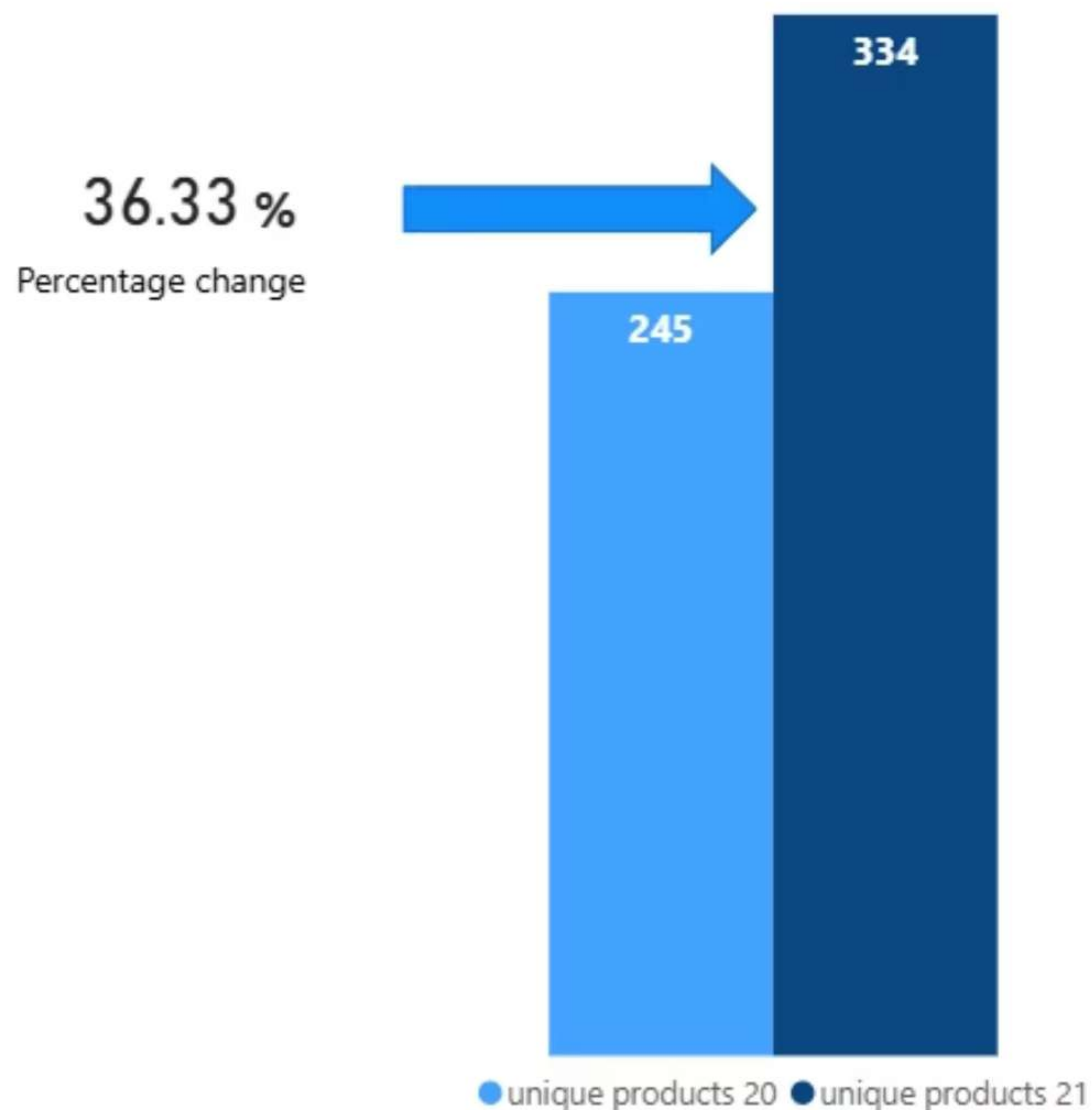
Q1: Provide list of markets in which customer “Atliq Exclusive” operates its business in the APAC region.

```
Select  
    Distinct Market  
From dim_customer  
    where customer = "Atliq Exclusive"  
And region = "APAC"
```



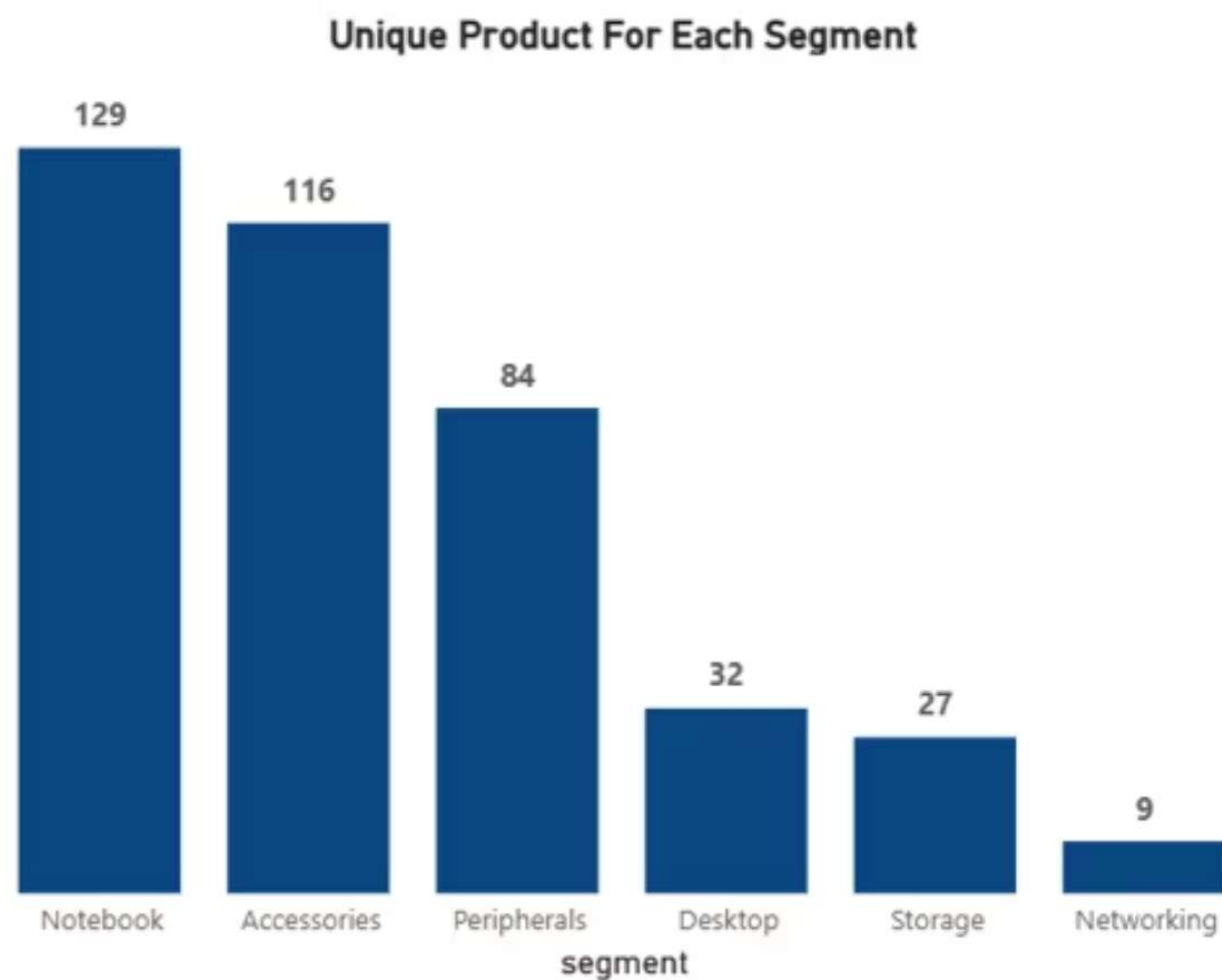
Q2: What is the percentage of unique product increase in 2021 vs. 2020? The final output contains these fields: unique_products_2020, unique_products_2021, percentage_chg.

```
• With unique_prod_20 as (  
  select count(distinct product_code) as unique_products_20  
  from fact_sales_monthly  
  where fiscal_year = 2020),  
  
  unique_prod_21 as (  
  select count(distinct product_code) as unique_products_21  
  from fact_sales_monthly  
  where fiscal_year = 2021)  
  
  select unique_products_20,  
         unique_products_21,  
         Round((a.unique_products_21 - b.unique_products_20)*100/b.unique_products_20,2) as Percentage_chg  
  from unique_prod_21 a,  
       unique_prod_20 b
```



Q3: 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: segment, product_count.

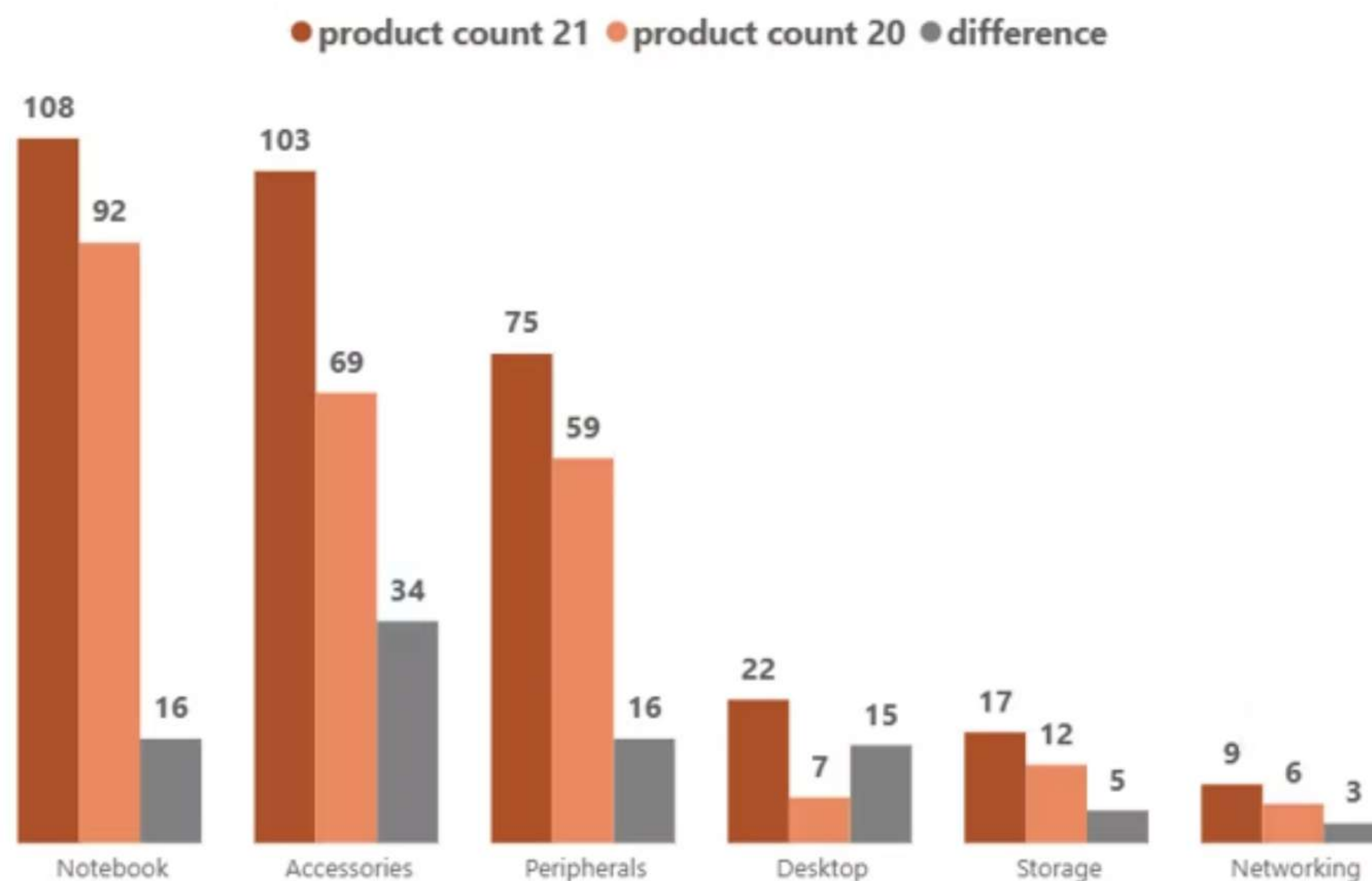
```
select segment, count(distinct product_code) as product_count
from dim_product
group by segment
order by product_count desc
```



Q4: Which segment had the most increase in unique products in 2021 vs 2020? The final output contains these fields: segment product_count_2020, product_count_2021, difference.

```
with cte1 as (select p.segment , count(distinct p.product_code) as product_count_20
from dim_product p join fact_sales_monthly s
using(product_code)
where s.fiscal_year = 2020
group by segment),
cte2 as (select p.segment , count(distinct p.product_code) as product_count_21
from dim_product p join fact_sales_monthly s
Using(product_code)
where fiscal_year = 2021
group by segment)

select segment,a.product_count_20, b.product_count_21, (product_count_21 - product_count_20) as difference
from cte1 a join cte2 b
Using(segment)
order by difference desc
```



Q5: Get the products that have the highest and lowest manufacturing costs. The final output should contain these fields: product_code, product, manufacturing_cost.

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

Highest Manufacturing Cost

\$240.54

AQ HOME Allin1 Gen 2

A6120110206

Personal Desktop

Lowest Manufacturing Cost

\$0.89

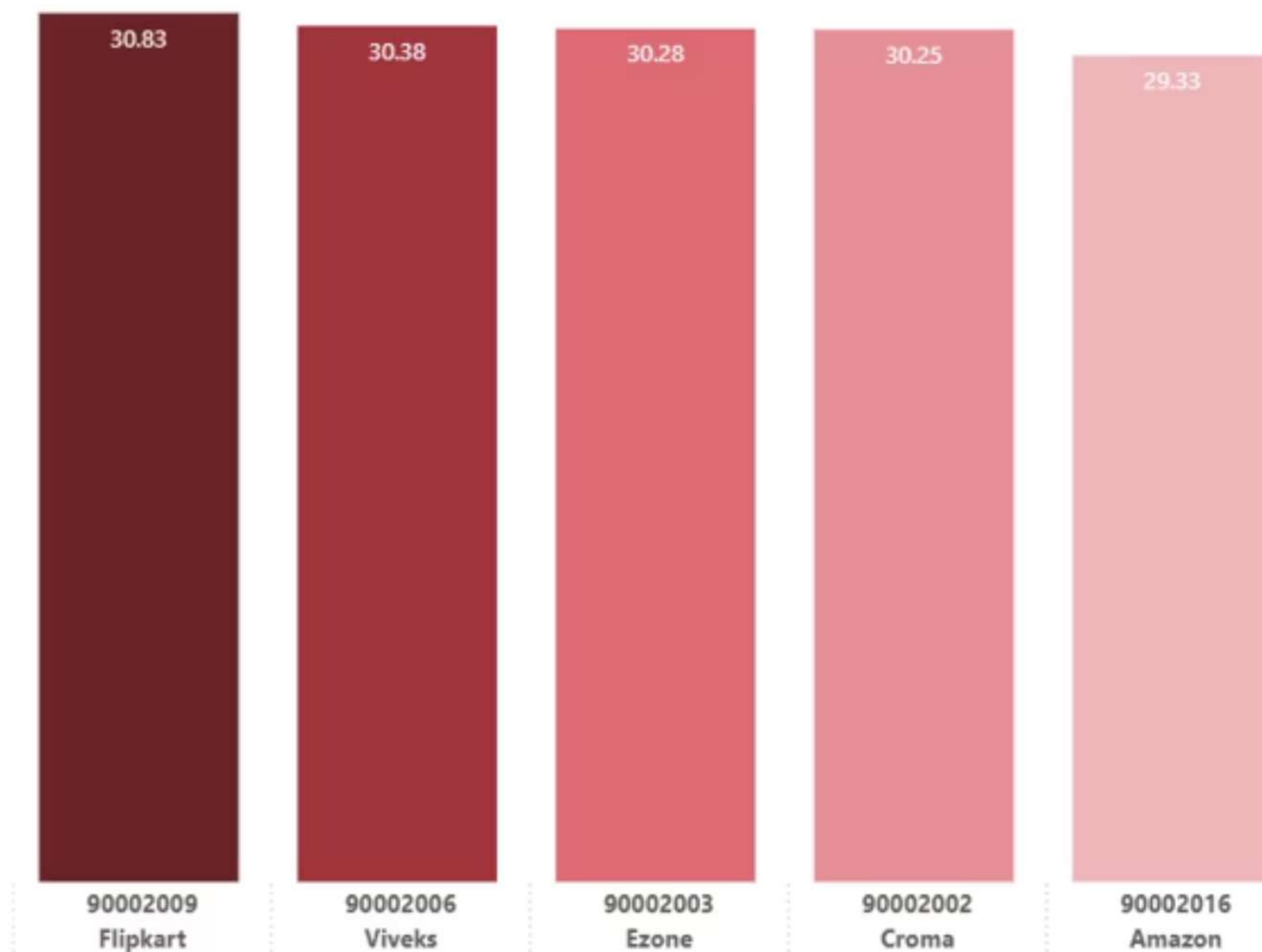
AQ Master wired x1 Ms

A2118150101

Mouse

Q6: 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. The final output contains these fields: customer_code, customer, average_discount_percentage.

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



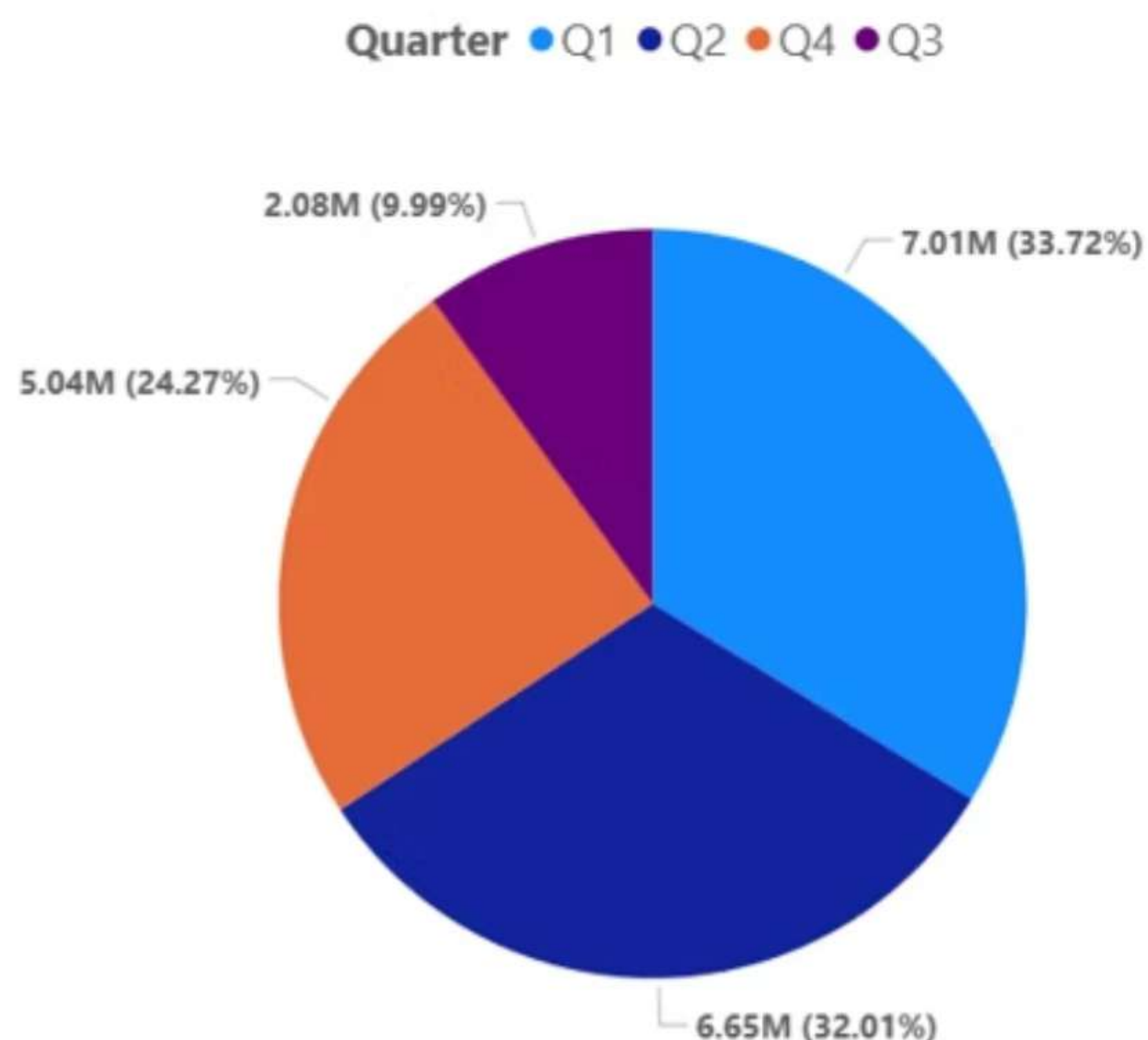
Q7: Get the complete report of the Gross sales amount for the customer “Atliq Exclusive” for each month. The final report contains these columns: Month, Year, Gross sales Amount.

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



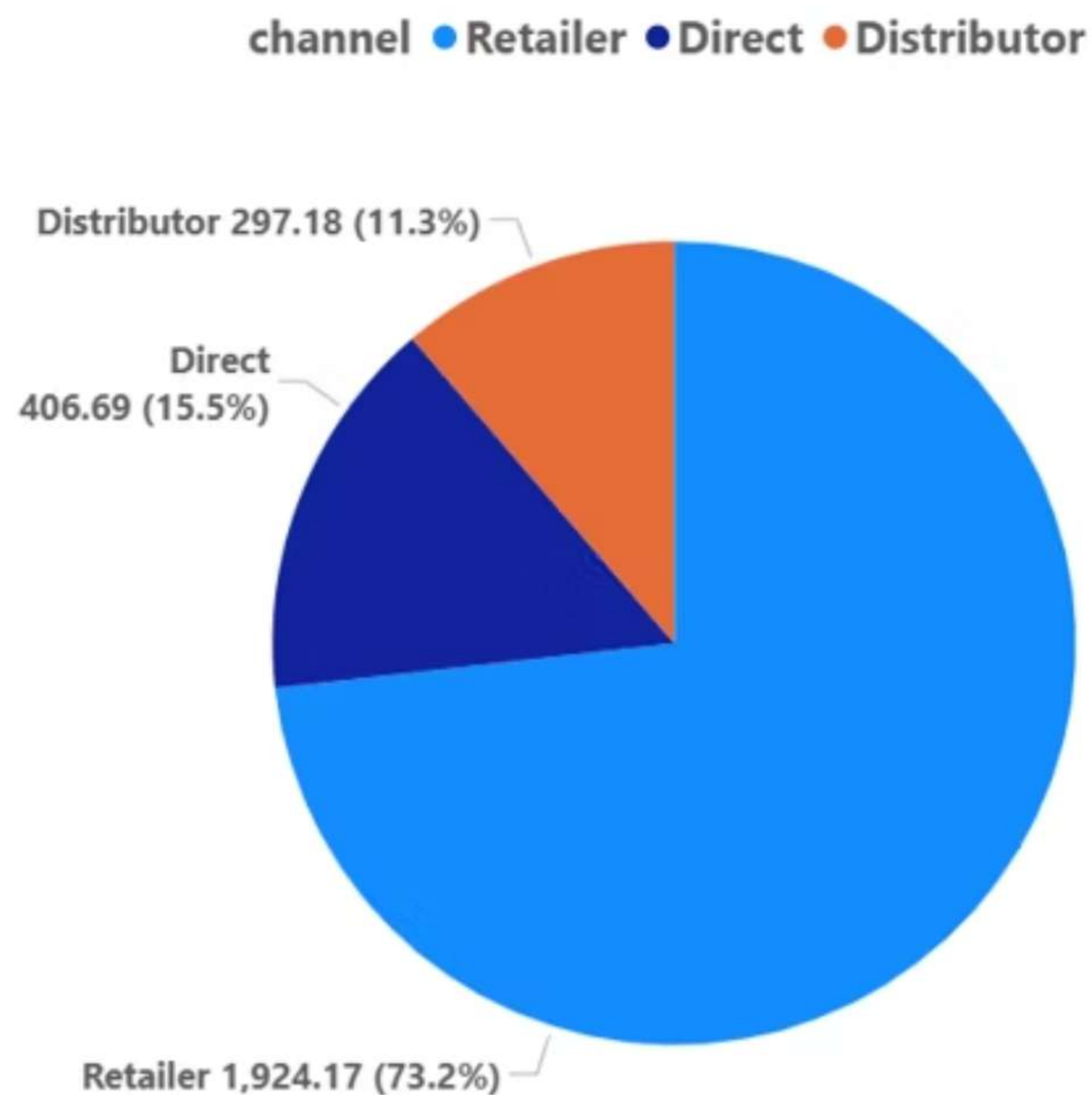
Q8: In which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantity: Quarter, total_sold_quantity.

```
• with cte as (  
    select month(date_add(date, interval 4 month)) as month_num ,  
    s.sold_quantity  
    from  
    fact_sales_monthly s  
    where fiscal_year = 2020)  
    select concat("Q",ceiling(month_num/3)) as Quarter,  
    sum(sold_quantity) as Sold_Quantity  
    from cte  
    group by quarter  
    order by quarter
```



Q9: Which channel helped to bring more gross sales in the fiscal year 2021 and the percentage of contribution? The final output contains these fields: channel, gross_sales_mln, percentage.

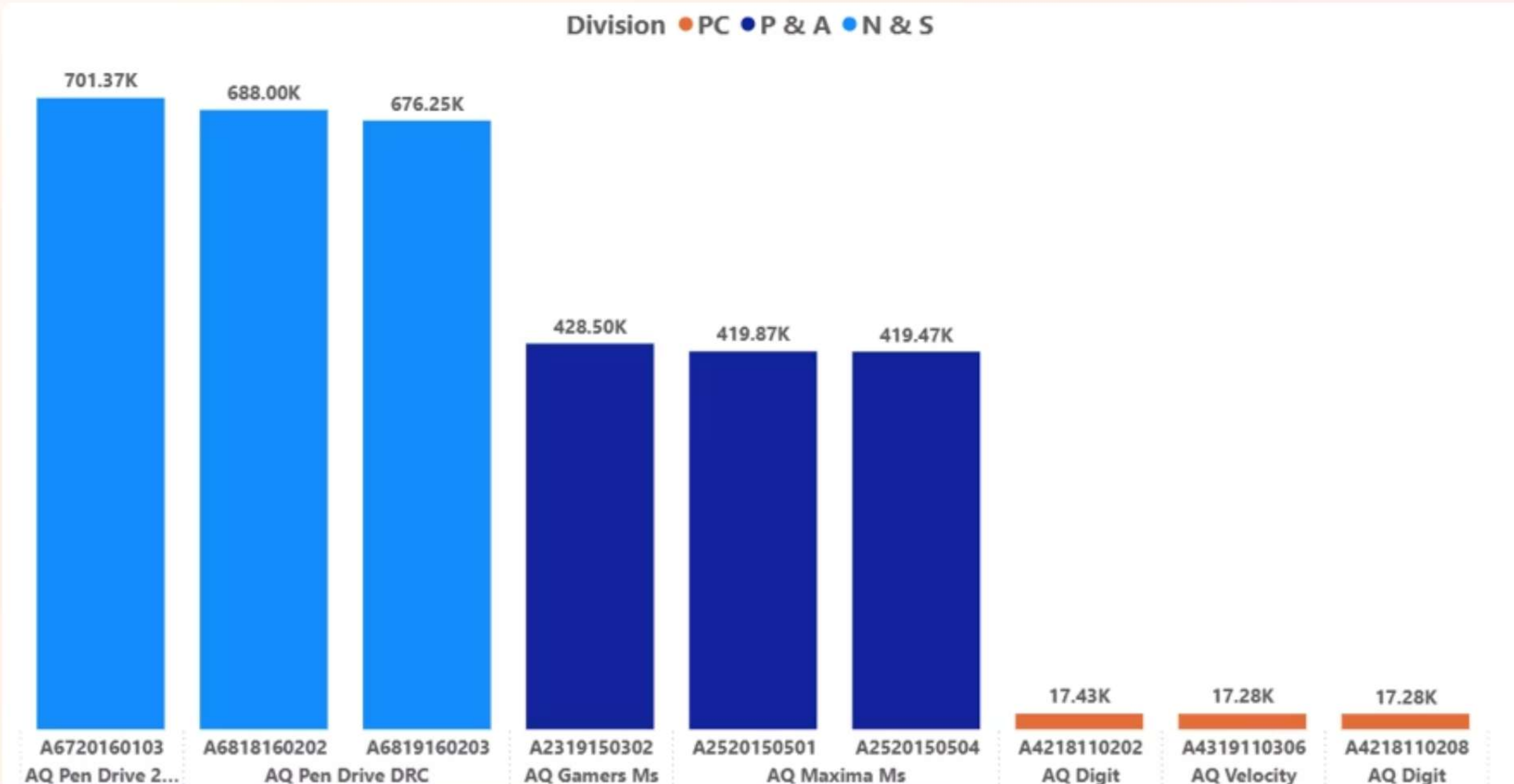
```
with cte as (select channel ,  
    round(sum(sold_quantity* gross_price)/1000000,2) as gross_sales_mln  
    from dim_customer c  
    join fact_sales_monthly s  
    using(customer_code)  
    join fact_gross_price g  
    on g.product_code =s.product_code  
    where s.fiscal_year =2021  
    group by channel)  
  
select *,  
concat(round(gross_sales_mln * 100/sum(gross_sales_mln) over(),2),"%") as percentage_contribution  
from cte  
order by percentage_contribution desc
```



Q10: Get the Top 3 products in each division that have a high total_sold_quantity in the fiscal_year 2021? The final output contains these fields: division, product_code, product, total_sold_quantity, rank_order.

```
with cte1 as( select p.division, p.product_code, p.product,
                sum(s.sold_quantity) as total_sold_quantity
              from dim_product p
              join fact_sales_monthly s
                using(product_code)
              where fiscal_year = 2021
              group by p.division,p.product,p.product_code),

cte2 as(select *, rank() over(partition by division order by total_sold_quantity desc)
        as rank_order from cte1)
select * from cte2 where rank_order <= 3
```





Recommendations for AtliQ Hardware

1. Localize Sales & Marketing Customize sales and marketing strategies for each country to better align with local customer needs. This will boost market presence and emulate the successful practices of top competitors.
2. Stay Ahead with Trend-Based Products Regularly update product offerings based on evolving customer trends to ensure AtliQ stays relevant and competitive in a dynamic market.
3. Expand Core Product Segments Grow the product lineup—particularly in networking, storage, and desktop solutions—to address underserved markets and capture untapped demand.
4. Optimize Costs & Reward Loyalty Streamline manufacturing costs and introduce structured discounts for long-term contracts. This will enhance profit margins and improve customer retention.
5. Leverage Regional Insights & Partnerships Analyze regional sales patterns to develop targeted strategies. Strengthen distributor relationships using CRM tools and profit-sharing models to drive steady and sustainable growth.

THANK YOU