



Consumer Goods: Ad_Hoc Insights

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Contents

- Introduction
- Business Scenario
- Database Overview
- Ad-Hoc Requests
- Conclusion
- Recommendations

Introduction

Atliq Hardware stands as a leading computer hardware manufacturer based in India, distinguishing itself with a substantial global footprint encompassing operations in 27 countries. With an extensive clientele of 74, Atliq Hardware has firmly entrenched its presence in key regions, including Asia Pacific (APAC), Europe (EU), North America (NA), and Latin America (LATAM).

The company excels in three primary product divisions, each contributing to its diverse and expansive portfolio: Peripherals and Accessories (P & A), Network and Storage (N & S), and Personal Computer (PC). This comprehensive array of offerings positions Atliq Hardware as a versatile and dependable choice for consumers worldwide.

Database overview

❑ **Fiscal Year Data Overview for Atliq Hardware (2020-2021)** : September 1, 2020, to August 31, 2021.

❑ Database Structure (atliq_hardware_db):

1. **Customer Information Table (dim_customer)**: Comprises details related to customers.

2. **Product Details Table (dim_product)**: Stores information about various products offered by Atliq Hardware.

3. **Gross Prices Data Table (fact_gross_price)**: Stores data concerning the gross prices of products throughout the specified fiscal period.

4. **Manufacturing Costs Table (fact_manufacturing_cost)**: Includes insights into the manufacturing costs associated with producing Atliq Hardware's products.

5. **Pre-Invoice Deductions Table (fact_pre_invoice_deductions)**: Provides data regarding pre-invoice deductions made during the fiscal years 2020 and 2021.

6. **Monthly Sales Data Table (fact_sales_monthly)**: Provides a comprehensive view of the monthly sales data for Atliq Hardware's products during the fiscal period.

Key Considerations

- The dataset covers fiscal years 2020 and 2021, detailing Atliq Hardware's financial performance.
- The fiscal year runs from September 1st to August 31st, aligning with Atliq Hardware's reporting cycle.
- The database comprises six key tables: dim_customer (Customers), dim_product (Products), fact_gross_price (Gross Prices), fact_manufacturing_cost (Manufacturing Costs), fact_pre_invoice_deductions (Pre-Invoice Deductions), and fact_sales_monthly (Monthly Sales).
- These tables capture customer info, product details, gross prices, manufacturing costs, pre-invoice deductions, and monthly sales.
- The dataset enables analysis of customer interactions, product performance, pricing trends, manufacturing efficiency, and financial adjustments.
- It serves as a valuable resource for informed decision-making, offering insights into business operations and areas for improvement or growth.

Ad-hoc Requests

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

REQUEST 1

```
select distinct market , region
from dim_customer
where  customer = "Atliq Exclusive" AND
      region = "APAC"
order by market ;
```

Result Grid | Filter Rows:

	market	region
▶	India	APAC
	Indonesia	APAC
	Japan	APAC
	Philippines	APAC
	South Korea	APAC
	Australia	APAC
	Newzealand	APAC
	Bangladesh	APAC

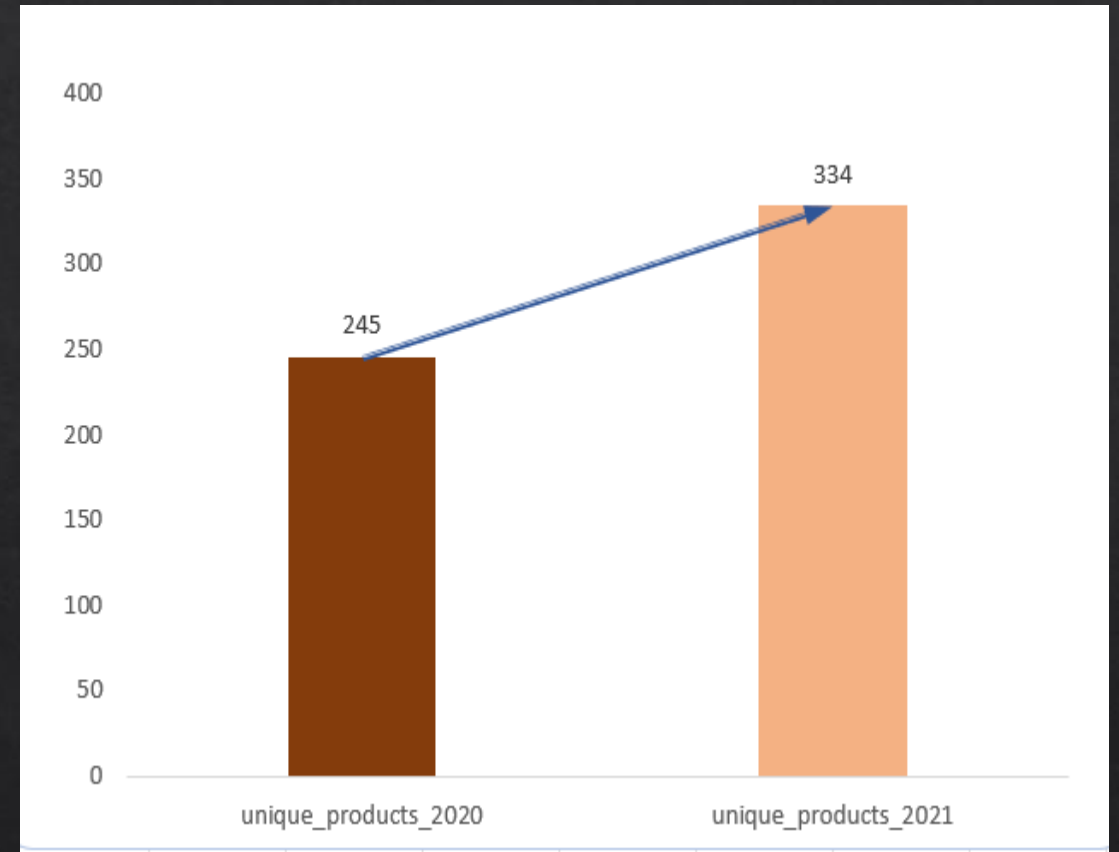


Atliq Exclusive operates its business across **eight diverse countries** in the **Asia-Pacific (APAC) region**

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

```
with cte as (  
  select sum(case when fiscal_year = "2020" then 1 else 0 end) as  
         unique_products_2020,  
         sum(case when fiscal_year = "2021" then 1 else 0 end) as  
         unique_products_2021  
  from fact_gross_price)  
  
select unique_products_2020, unique_products_2021,  
       Round((unique_products_2021-unique_products_2020)/unique_products_2020*100,2)  
  as percentage_chg  
from cte ;
```

	unique_product_2020	unique_product_2021	percent_change
►	245	334	36.33

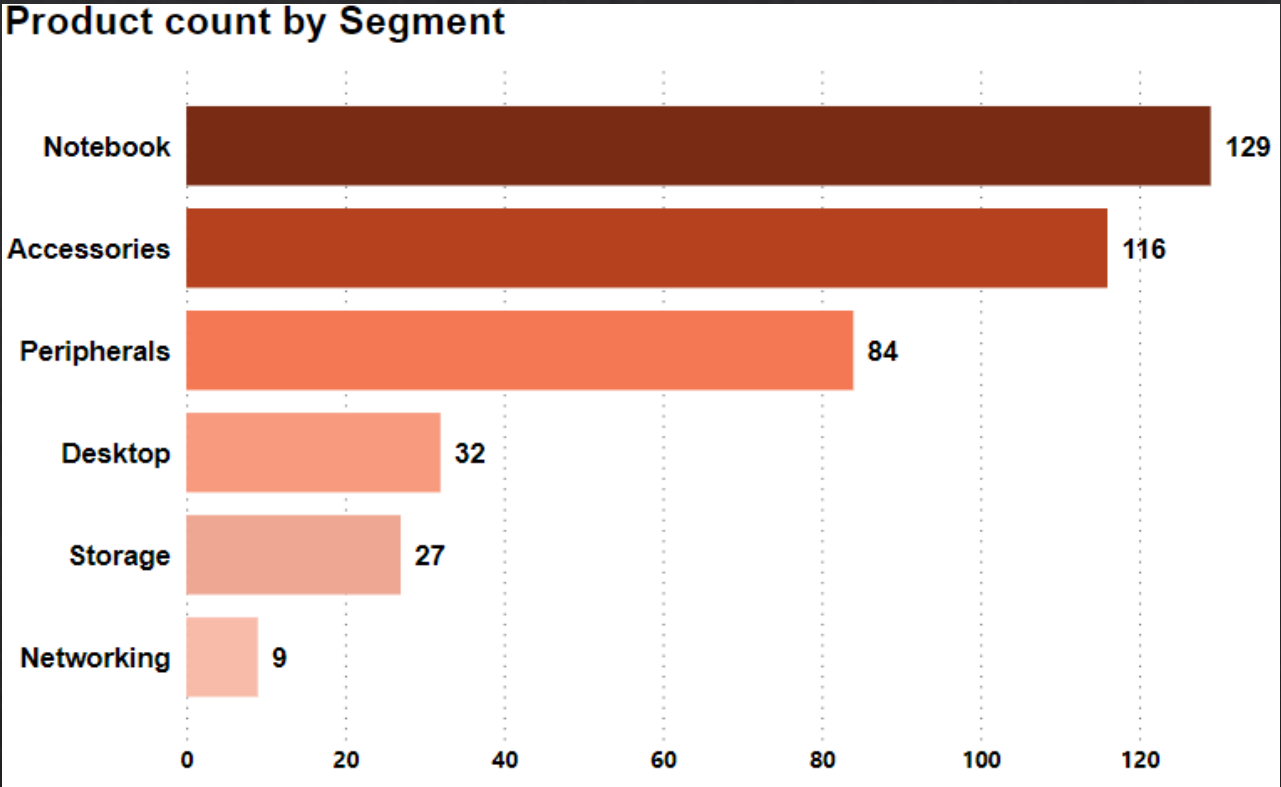


The remarkable growth of **36.33%** in the unique product count from 2020 to 2021 indicates a substantial expansion of the business over the past year.

REQUEST 3

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

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



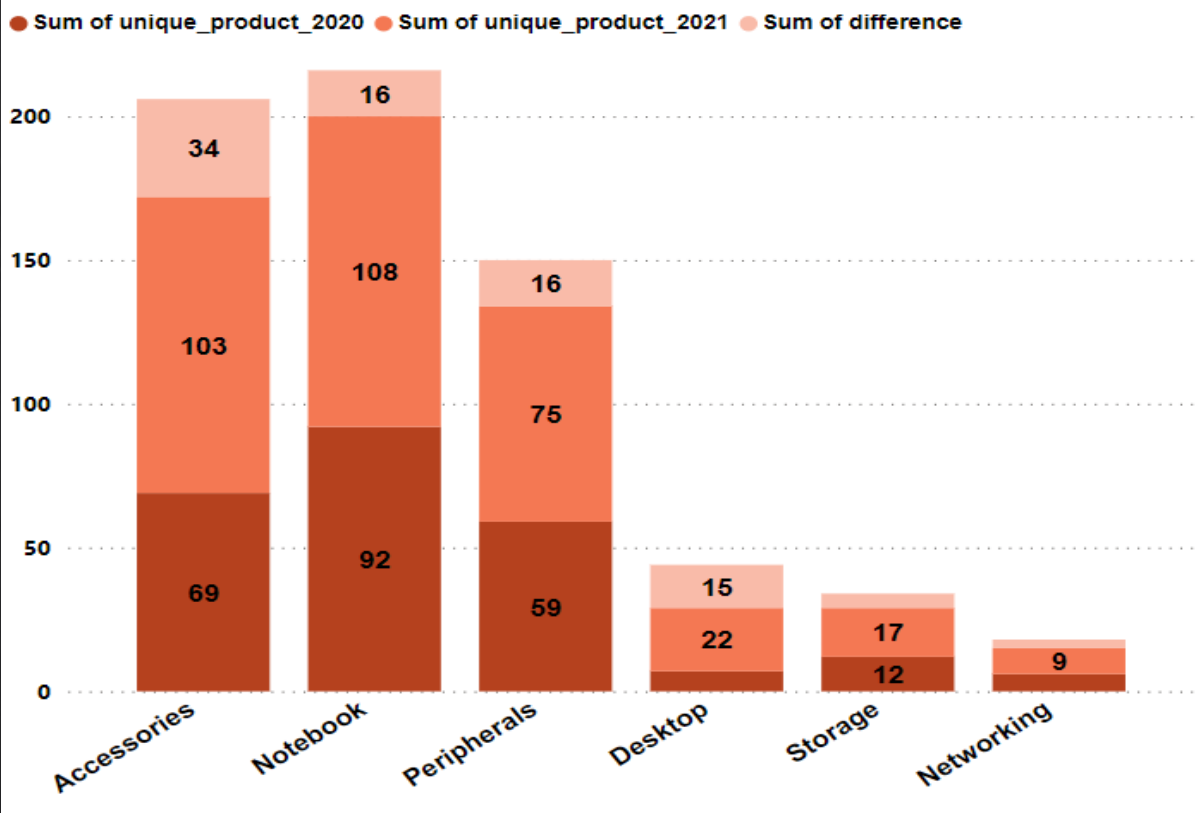
	segment	unique_product_count
▶	Notebook	129
	Accessories	116
	Peripherals	84
	Desktop	32
	Storage	27
	Networking	9

The Networking segment of the company has the lowest product count, whereas the Notebook segment has the highest. This implies that the company may have recently bolstered its sales and marketing efforts in the Networking segment, possibly in response to a surge in demand.

Follow-up: Which segment had the most increase in unique products in 2021 vs 2020?

```
with cte as (  
  (select segment,  
    count(distinct case when fiscal_year = "2020" then p.product_code end)  
    as unique_product_2020 ,  
    count(distinct case when fiscal_year = "2021" then p.product_code end)  
    as unique_product_2021  
  from dim_product As p  
  join fact_gross_price As g using (product_code)  
  group by segment))  
select  segment, unique_product_2020, unique_product_2021 ,  
        (unique_product_2021 - unique_product_2020) as difference  
from cte  
order by 4 desc ;
```

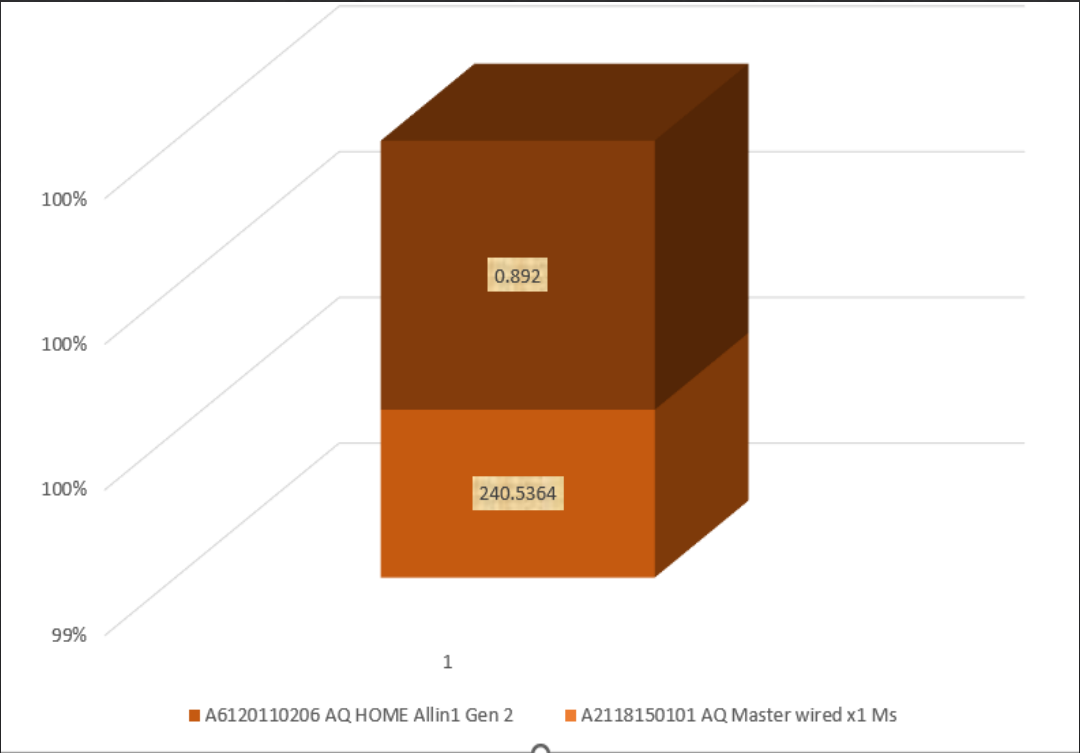
	segment	unique_product_2020	unique_product_2021	difference
▶	Accessories	69	103	34
	Notebook	92	108	16
	Peripherals	59	75	16
	Desktop	7	22	15
	Storage	12	17	5
	Networking	6	9	3



The Accessories segment witnessed the most substantial surge in unique products between 2020 and 2021, while the Desktop segment demonstrated the highest percentage increase.

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

```
select m.product_code, product, manufacturing_cost
from dim_product As d
join fact_manufacturing_cost As m using (product_code)
where manufacturing_cost IN (
    (select MAX(manufacturing_cost) from fact_manufacturing_cost),
    (select MIN(manufacturing_cost) from fact_manufacturing_cost))
order by manufacturing_cost desc ;
```



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

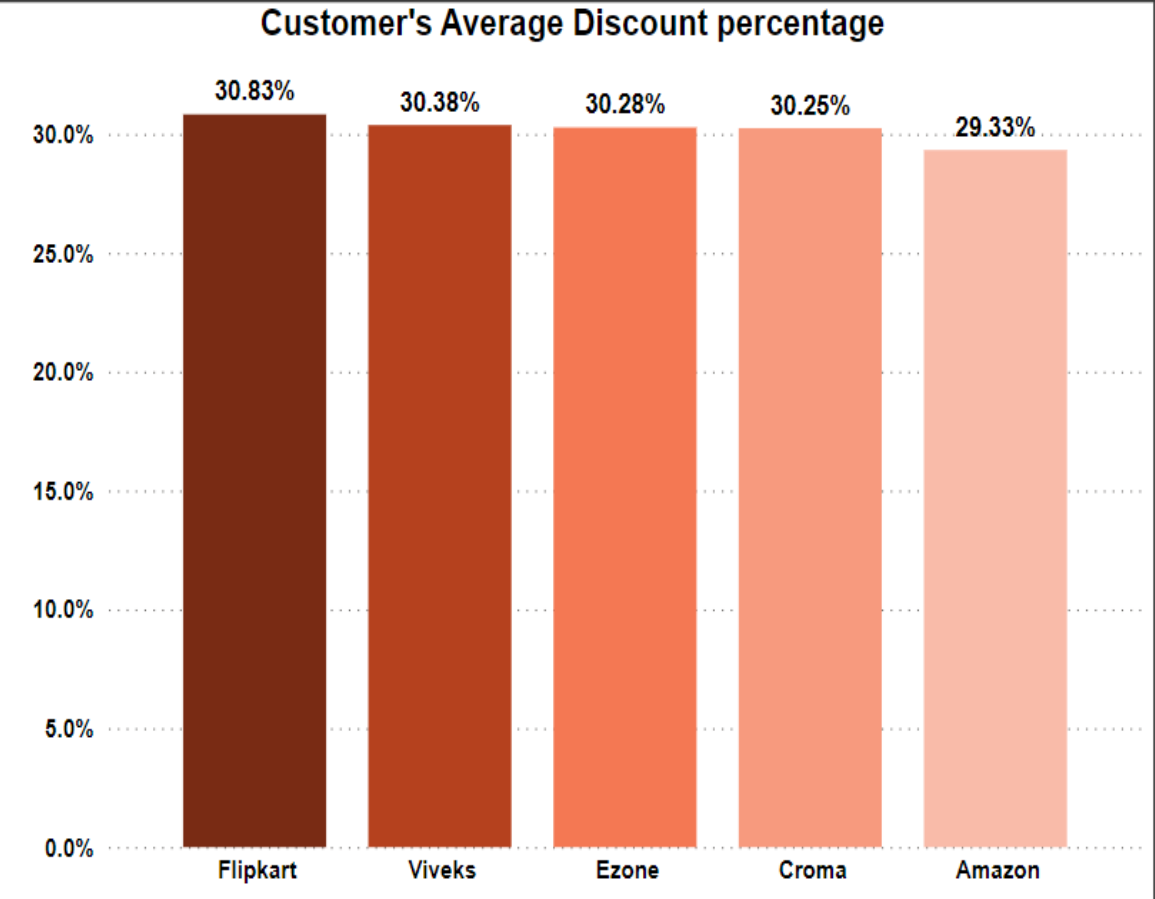
The AQ Home Allin1 Gen 2 incurs the highest manufacturing cost, while the lowest manufacturing cost is associated with AQ Master Wired x1 Ms.

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.

REQUEST 6

```
select c.customer_code , customer ,
       Round(Avg (pre_invoice_discount_pct)*100, 2) as
       average_discount_pct,
       concat(Round(Avg (pre_invoice_discount_pct)*100, 2), "%") as
       avg_discount_pct
from dim_customer As c
join fact_pre_invoice_deductions As pre_invoice using (customer_code)
where fiscal_year = "2021" And
       market = "India"
group by c.customer_code, customer
order by 3 desc
limit 5 ;
```

	customer_code	customer	average_discount_pct	avg_discount_pct
▶	90002009	Flipkart	30.83	30.83%
	90002006	Viveks	30.38	30.38%
	90002003	Ezone	30.28	30.28%
	90002002	Croma	30.25	30.25%
	90002016	Amazon	29.33	29.33%



The collective average pre-invoice discount percentage for the top 5 customers stands at 30.21%, exhibiting minimal variation among them.

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

REQUEST 7

```
select monthname(date) , year(date),
CONCAT("$",(Round(Sum(sold_quantity * gross_price)/1000000,2))) as gross_sales_amount
from fact_sales_monthly s
join fact_gross_price g
on s.product_code = g.product_code
and s.fiscal_year = g.fiscal_year
join dim_customer c
on s.customer_code = c.customer_code
where customer = "Atliq Exclusive"
group by 1,2
order by 2 ;
```

	monthname(date)	year(date)	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	\$12.33

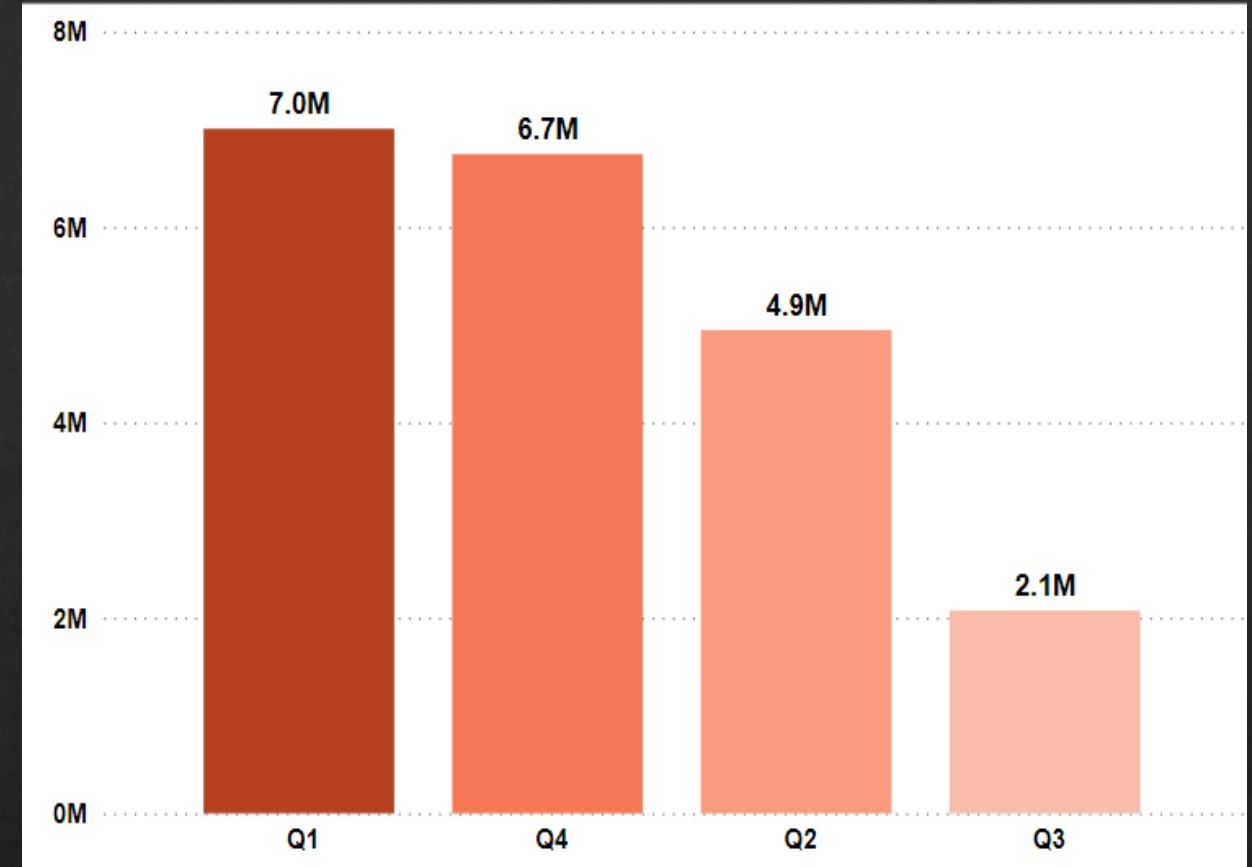
In November 2020, the company attained its highest monthly sales, reaching \$20.46 million, whereas March 2020 marked the lowest monthly gross sales at \$0.38 million. The fiscal year 2020 concluded with a total sales figure of \$39.33 million. In contrast, fiscal year 2021 witnessed a substantial increase, reaching a total sales amount of \$142.19 million.

In which quarter of 2020, got the maximum total_sold_quantity?

REQUEST 8

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

	Quarter	total_quantity_sold
▶	Q1	7005619
	Q4	6745326
	Q2	4946857
	Q3	2075087

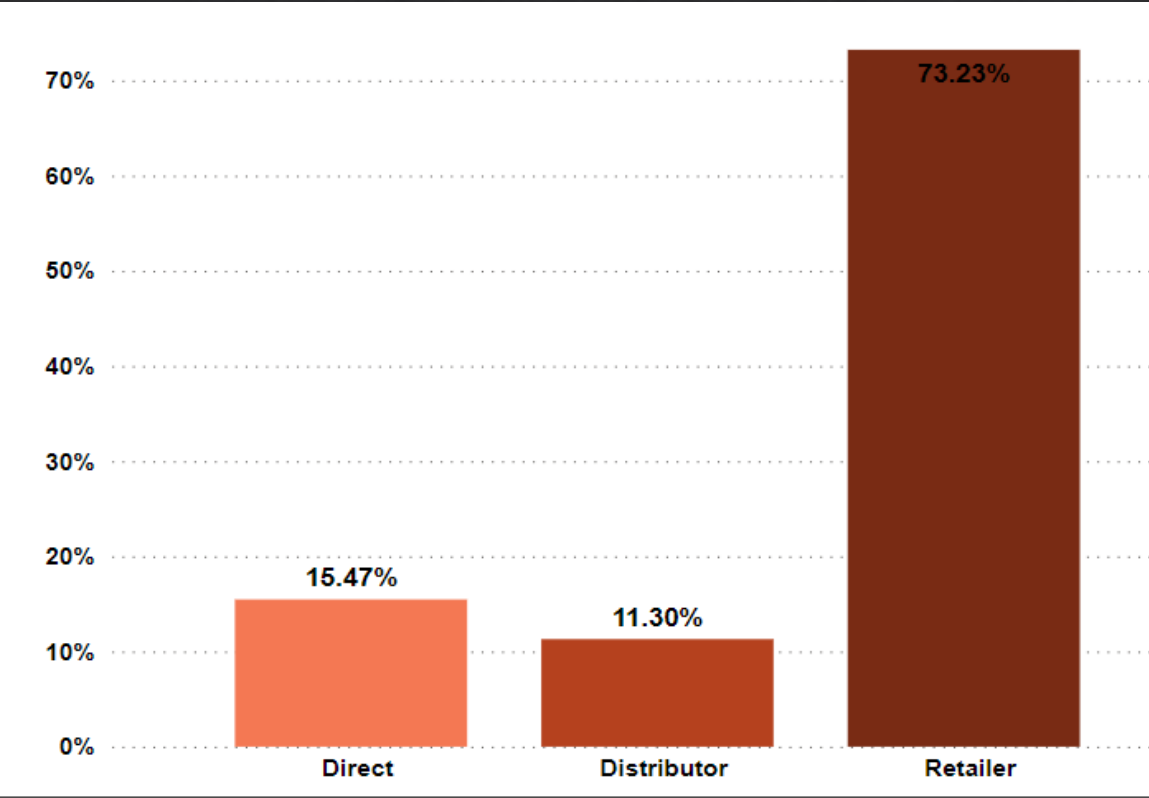


The sales figures for the respective quarters are ranked highest to lowest as follows: Q1, Q2, Q4, and Q3.

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

```
with cte as (  
  select channel,  
         Round(sum(sold_quantity * gross_price)/1000000,2)  
         As gross_sales_monthly  
  from fact_sales_monthly As s  
  left join fact_gross_price As m  
  On m.product_code = s.product_code and  
      m.fiscal_year = s.fiscal_year  
  join dim_customer As c using (customer_code)  
  where m.fiscal_year = "2021"  
  group by channel )  
  
select  channel, gross_sales_monthly,  
        concat(Round((gross_sales_monthly/(select sum(gross_sales_monthly)  
        from cte))*100,2), "%" ) As percentage  
from cte  
group by channel  
order by 3 desc ;
```

Throughout 2021, the primary driving force behind the company's sales revenue was retailers, constituting the highest percentage of gross sales at 73.22%. Direct sales comprised 15.47% of the total, and distributors played a comparatively smaller role, contributing 11.31%. This underscores the significant contribution of retailers to the overall sales performance, with direct and distributor sales playing secondary roles in the company's revenue structure.



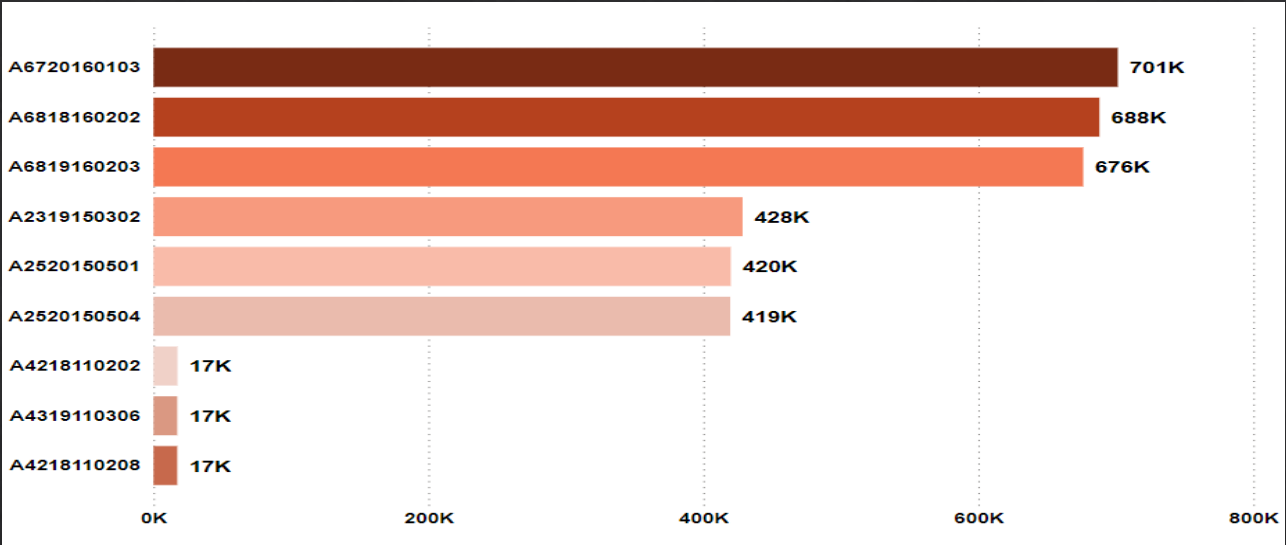
	channel	gross_sales_monthly	percentage
▶	Retailer	1219.08	73.23%
	Direct	257.53	15.47%
	Distributor	188.03	11.30%

REQUEST 10

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

```
with cte as (  
  select division, s.product_code, 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 As s  
  join dim_product As p using(product_code)  
  where fiscal_year = "2021"  
  group by division , s.product_code, product)  
  
select *  
from cte  
where rank_order <= 3 ;
```

	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



The standout performers among the best-selling products in the fiscal year 2021 were:

- Leading the pack in Network and Storage (N & S), the AQ Pen Drive.
- Securing top positions in Peripherals & Accessories (P & A), the AQ Gamer Ms.
- In the realm of Personal Computer (PC), the AQ Digit emerged as a top choice.

Conclusions

- AtliQ Exclusive operates in **eight different countries** across Asia, contributing to marketing and sales efforts.
- The variety of products witnessed a substantial increase of **36.33% from 2020 to 2021**, indicating significant business growth and an expanded product range.
- Analyzing product categories helps identify strengths and weaknesses, guiding strategic focus. Notably, Accessories experienced the most substantial increase in product diversity, emphasizing the importance of expanding this category.
- Understanding the production costs of various products aids in decision-making regarding production processes and pricing strategies.
- Identifying the **top 5 customers** receiving significant pre-invoice discounts offers insights into customer engagement strategies.
- Regularly monitoring monthly sales data assists in determining optimal periods for key business decisions. Sales data reveals a peak in product sales during the **first quarter of 2020**, suggesting potential trends for planning and inventory management.
- Notably, **retailers** played a pivotal role in the company's income in 2021, underscoring their significance.
- Recognizing the top-performing products in each category in 2021 provides valuable guidance for marketing and strategic focus.

Recommendations

- **Enhance Market Penetration:** Utilize insights derived from the analysis to strategically expand operations in the Asia-Pacific (APAC) region, with a focus on high-potential markets.
- **Product Diversification:** Capitalize on the observed growth in unique products by continuing to diversify the product portfolio, especially in high-performing segments such as Accessories.
- **Strategic Marketing:** Tailor marketing strategies for each segment using segment-wise product counts and insights on unique product increases (Q4).
- **Cost Optimization:** Review products with the highest manufacturing costs to identify opportunities for cost optimization, ensuring competitiveness in the market.
- **Customer Relationship Management:** Maintain robust relationships with top customers identified in the analysis, considering the implementation of loyalty programs or exclusive offerings.
- **Sales Forecasting:** Utilize monthly gross sales data to identify seasonal trends for more accurate sales forecasting, thereby aiding in efficient inventory management.
- **Strategic Sales Focus:** Prioritize sales efforts strategically, based on channel contribution, focusing on retailers and direct channels for maximum impact.
- **Product Performance Analysis:** Regularly analyze the performance of top products in each division to adapt to changing market demands and consumer preferences. This ongoing analysis will facilitate informed decision-making and strategic adjustments.

THANK YOU