

Consumer Goods Ad hoc Insights

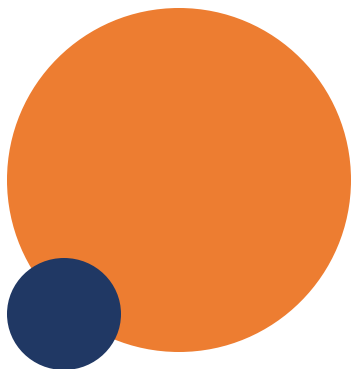
- This presentation provides an overview of Atliq Hardware, a leading computer hardware producer over 27 countries. We will explore ad hoc requests, query results, and insights derived from the company's data.



Present by Md. Fazle Rabbi Mugdho

Objective

- Ad hoc request with Insights
- Analysis data with graph, charts
- Overview of company



Request 1: Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

SQL Query :

```
select market
from dim_customer
where region = 'APAC' && customer
= 'Atliq Exclusive'
group by market;
```

Output :

	market
▶	India
	Indonesia
	Japan
	Philippines
	South Korea
	Australia
	Newzealand
	Bangladesh

Visualization:



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Request 1: Provide the list of markets in which customer "Atliq Exclusive" operates its business in the APAC region.

Atliq Exclusive has operations in 26 countries and, vis-à-vis, also has an enviable **APAC** market presence with 8 countries, viz, India, Indonesia, Japan, Philippines, South Korea, Australia, New Zealand, and Bangladesh. Thus, **APAC** becomes the region of significant concern for the organization. In this region, it has the most number of stores, demonstrating its geographical significance. Next comes **Europe (EU)**, which has 6 stores, while **North America (NA)** has 2, indicating a wider but sparser expanse of presence beyond the **APAC** region. The company has a noticeably large market in this region due to its emphasis on this fast-growing domestic market.



Request 2: Unique Product Increase

SQL Query :

```
set @unique_products_2020 = (  
select count(distinct product_code)  
from fact_gross_price  
where fiscal_year = 2020);
```

```
set @unique_products_2021 = (  
select count(distinct product_code)  
from fact_gross_price  
where fiscal_year = 2021);
```

```
set @percentage_chg = round((((@unique_products_2021-@unique_products_2020) /  
@unique_products_2020)*100, 3);
```

```
SELECT @unique_products_2020 AS unique_products_2020,  
       @unique_products_2021 AS unique_products_2021,  
       @percentage_chg;
```

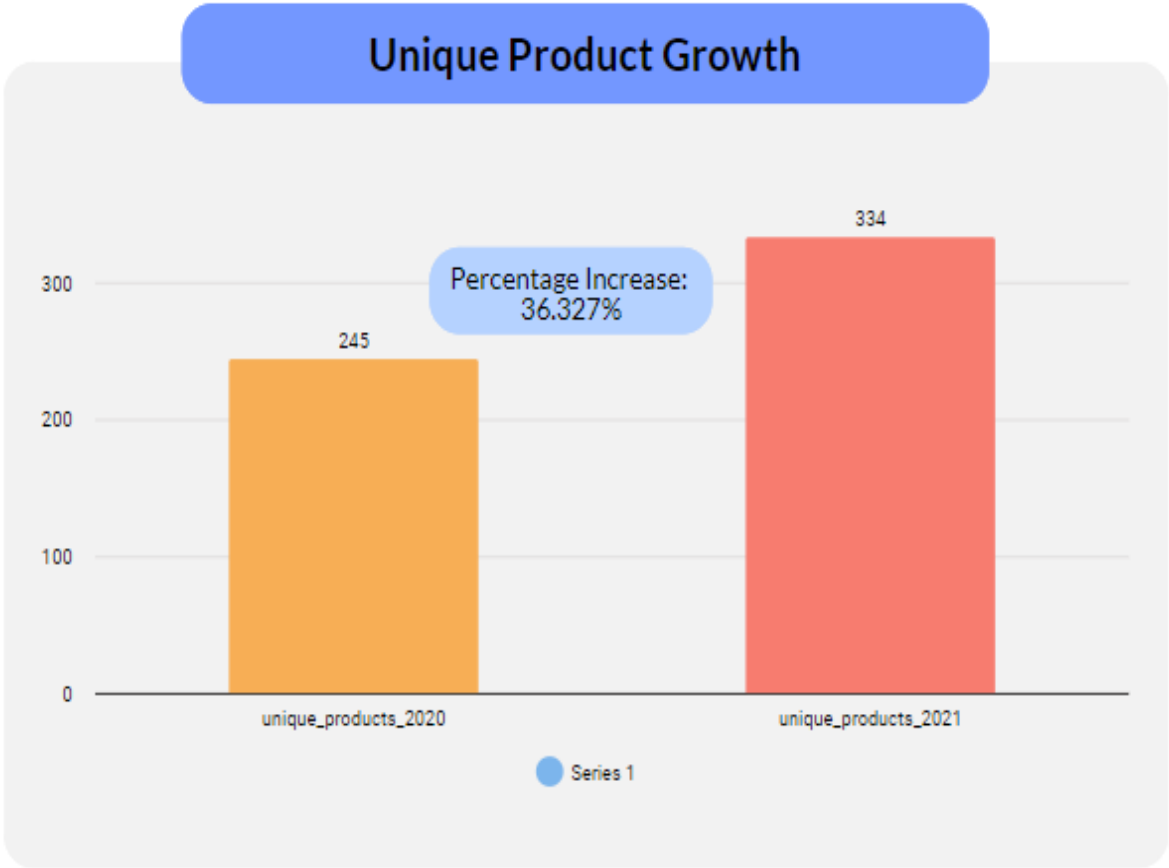
Output :

	unique_products_2020	unique_products_2021	@percentage_chg
▶	245	334	36.327



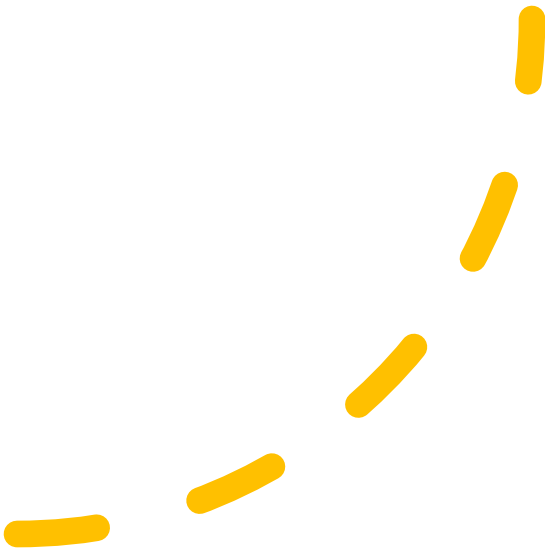
Request 2: Unique Product Increase

Visualization:



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The unique products increased from 245 in 2020 to 334 in 2021, reflecting a significant growth of **36.33%**. This surge suggests successful market expansion and heightened consumer demand. If this trend continues, it could lead to increased innovation and investment opportunities. Overall, this growth indicates a robust market environment for unique products.



Request 3: Product Counts by Segment

SQL Query :

```
select dim_product.segment,  
  
COUNT(distinct dim_product.product_code) AS  
product_count  
  
from dim_product  
  
group by segment  
  
order by product_count desc;
```

Output :

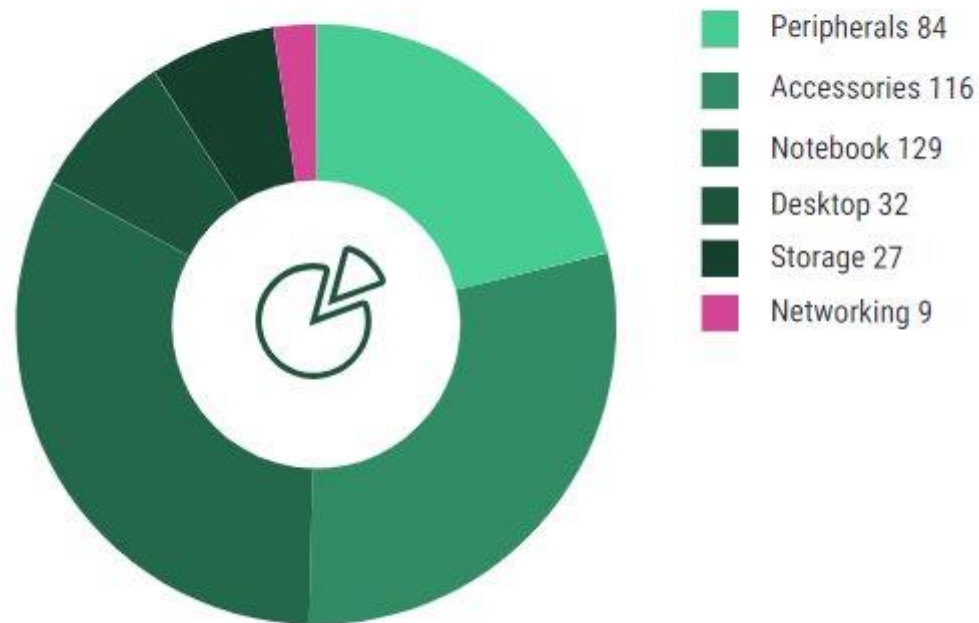
	segment	product_count
▶	Notebook	129
	Accessories	116
	Peripherals	84
	Desktop	32
	Storage	27
	Networking	9



Request 3: Product Counts by Segment

Visualization:

Product Segment Analysis



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In the **notebook** category, the leads stand at 129 units supported by the growing virtue of portable computing devices, which is likely a result of remote work and mobile computing. **Accessories** closely come after at 116 units, those of add-ons showing an aspiring market improved tech usability. In 84 units, **peripherals** play a significant role, proving how external devices such as keyboards and monitors are well regarded. Giving contrast, **desktop** (32 units) and **storage** (27 units) do not take center stage, showing lesser traditional system preference compared to mobile tech. The **networking** aspect, with just 9 units, reveals a very niche market, likely catering to specific demands. By and large, the products that the market offers are primarily those that encourage mobility alongside the **accessories**.

Request 4: Segment with Most Unique Product Increase

SQL Query :

```
select
dim_product.segment,
count(case when fact_gross_price.fiscal_year = 2020 then
dim_product.product_code end) as product_count_2020,
count(case when fact_gross_price.fiscal_year = 2021 then
dim_product.product_code end) as product_count_2021,
count(case when fact_gross_price.fiscal_year = 2021 then
dim_product.product_code end) - count(case when
fact_gross_price.fiscal_year = 2020 then dim_product.product_code end)
as increase
from dim_product
inner join fact_gross_price on dim_product.product_code =
fact_gross_price.product_code
group by dim_product.segment
order by increase desc;
```

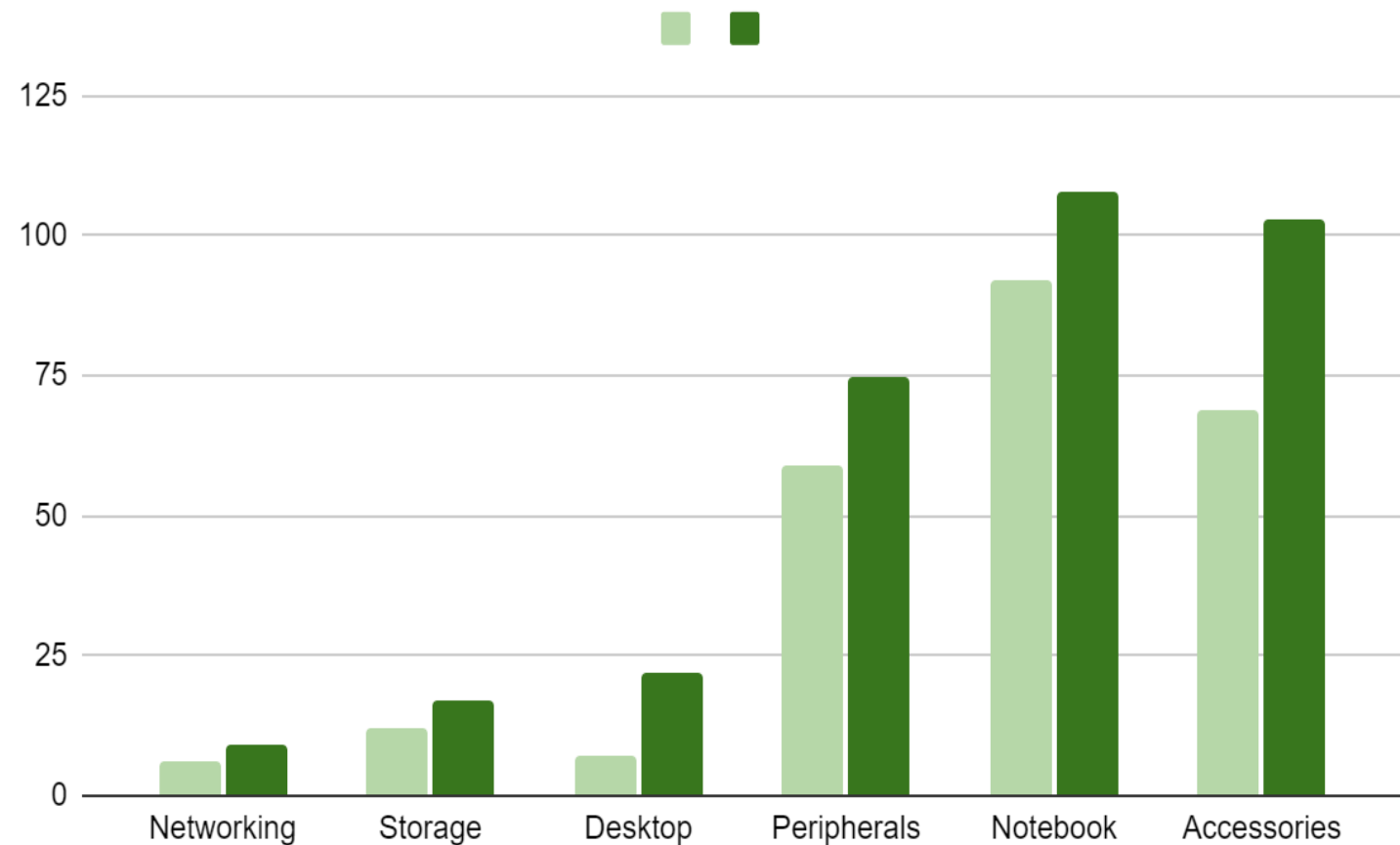
Request 4: Segment with Most Unique Product Increase

Output :

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

Visualization:

Product Increase 2020 to 2021



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Request 4: Segment with Most Unique Product Increase

In the year **2021**, the **accessories** segment experienced a significant rise in the number of items stocked within that category, going up to 34 units from the previous year's stock of 2020, showing more emphasis on the product category expansion as it was followed by 16-1 for the inertia segment, **notebooks** and associated **peripherals** and even each component seller was able to record an increase per unit for this most vital. At the same time, such a solution strategy is referred to as **constructive** and, therefore, its simplifications are not acceptable as it would distort this. The **desktop** segment, however, had only 7 products at the beginning of the year two thousand and twenty, but it is also quite notable that it reached 22 by the year twenty twenty-one, this correlation in the number of offerings, suggests that there is growing demand from the market, even perhaps in expectations for desktop-oriented products such as **storage** and **connectivity** resources. This implies that even as these segments are on expansion, they do not provide as much attention as several other segments.

Request 5: Products with Highest and Lowest Manufacturing Costs

SQL Query :

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

Output :

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



Request 5: Products with Highest and Lowest Manufacturing Costs

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AQ HOME Allin1 Gen 2's manufacturing cost is much higher at **240.5364**, while **AQ Master wired x1 Ms**'s cost is **0.8920**, which is much cheaper, indicating a simpler or less functional product. The distinct gap in the costs suggests that the **Allin1 Gen 2** is likely a high-class or multi-purpose device aimed at a more particular or expensive consumer market. In contrast, the **AQ Master wired x1 Ms** is probably a basic product available across all markets, leading to lower production costs and thus lower prices. Such differences in costs will most likely affect the pricing strategy, where expensive items like the **Allin1** have to be sold with a mark-up to remain profitable, while the cheaper item depends on sales volume rather than a high price.



Request 6: Top 5 Customers with Highest Discounts

SQL Query :

```
select dim_customer.customer_code, dim_customer.customer, fact_pre_invoice_deductions.pre_invoice_discount_pct *  
100  
from dim_customer  
inner join fact_pre_invoice_deductions on dim_customer.customer_code = fact_pre_invoice_deductions.customer_code  
where dim_customer.sub_zone = 'INDIA' and fact_pre_invoice_deductions.fiscal_year = 2021  
order by fact_pre_invoice_deductions.pre_invoice_discount_pct desc limit 5;  
order by manufacturing_cost desc;
```

Output :

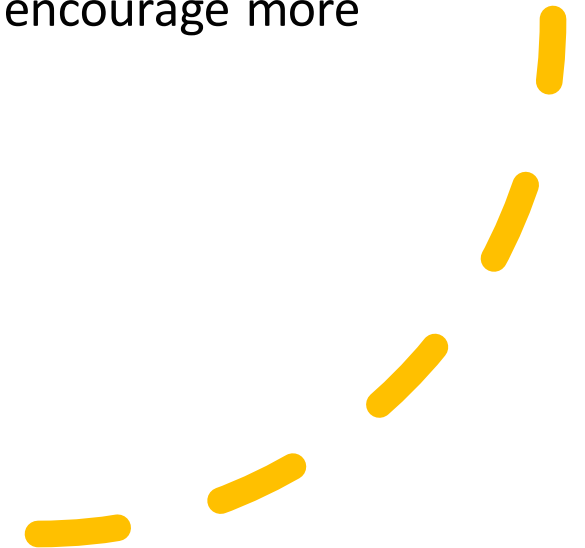
	customer_code	customer	pre_invoice_discount_pct
▶	90002009	Flipkart	30.8300
	90002006	Viveks	30.3800
	90002003	Ezone	30.2800
	90002002	Croma	30.2500
	90002016	Amazon	29.3300



Request 6: Top 5 Customers with Highest Discounts

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Analysis of customer data provided by **Flipkart** and **Viveks** shows that most of their customers enjoy a **30.83%** pre-invoice discount. This likely indicates that these two customers have either the strongest purchasing power or the closest strategic partnerships with the supplier, which explains the high discount. **Ezone** and **Croma** stand very close, with discount percentages of **30.28%** and **30.25%**, respectively, suggesting similar but slightly lower offers. As for **Amazon**, customers receive the least discount at **29.33%**, which is quite unusual. This could indicate that Amazon is negotiating or operating differently from the others. This suggests a structured discount model, where higher discounts are given to chief partners to reward their loyalty or encourage more significant purchases.



Request 7: Monthly Gross Sales for Atiq Exclusive

SQL Query :

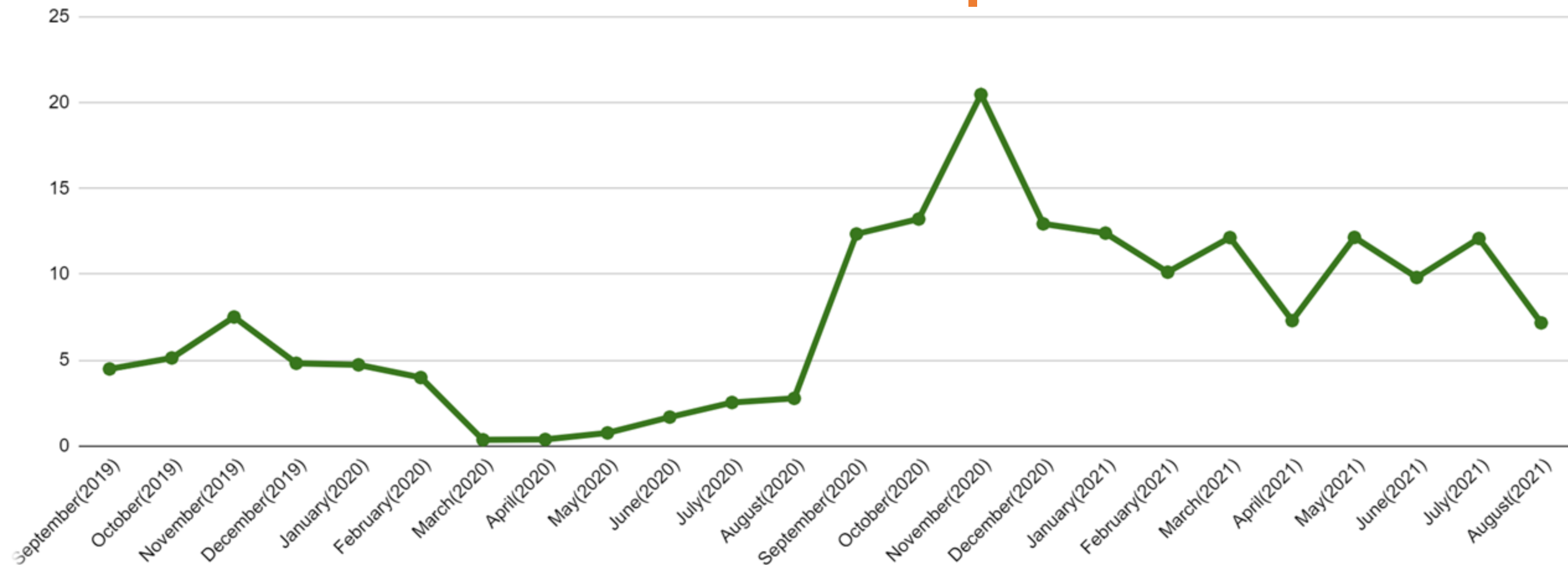
```
select
    Year(date) as Year,
    monthname(date) as Month,
    round(sum(sold_quantity * fact_gross_price.gross_price/1000000),2) as Gross_sales_Amount
from
fact_sales_monthly
inner join
dim_customer on dim_customer.customer_code = fact_sales_monthly.customer_code
inner join
fact_gross_price on fact_gross_price.product_code = fact_sales_monthly.product_code and
fact_gross_price.fiscal_year = fact_sales_monthly.fiscal_year
where dim_customer.customer='Atliq Exclusive'
group by Month, Year
order by Year;
```

Output :

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

Request 7: Monthly Gross Sales for Atiq Exclusive

- Visualization:

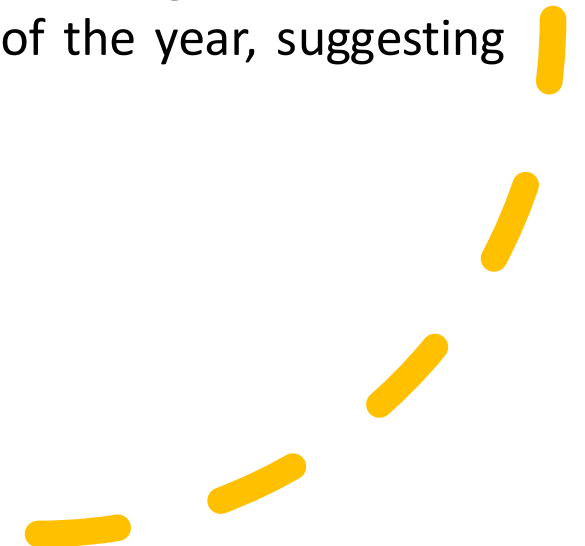


Request 7: Monthly Gross Sales for Atiq Exclusive

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Gross sales exhibited considerable variations during the period from **September 2019** to **August 2021**. In 2019, the volume sales peaked in **November**, accounting for **7.52**, while the least was in **September**, which stood at **4.50**. There was a drastic reduction in sales in **March 2020** to **0.38**, likely due to the **COVID-19 outbreak**, with the decline persisting into **April**, where sales were **0.40**. However, in **December 2020**, sales saw a tremendous recovery, reaching a high of **20.46**, likely driven by the festive season.

The year **2021** started strong, with sales at **12.40** in **January**, and the highest record in **May** being **12.15**, before dropping to **7.18** in **August**. The analysis reveals both seasonality, such as spikes during holidays, and shocks, including the COVID-19 outbreak. While the recovery in early 2021 was encouraging, the pace slowed in the second half of the year, suggesting potential challenges in sustaining momentum.



Request 8: Monthly Gross Sales for Atiq Exclusive

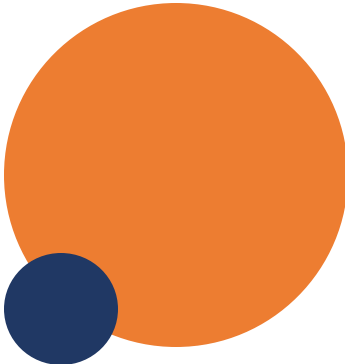
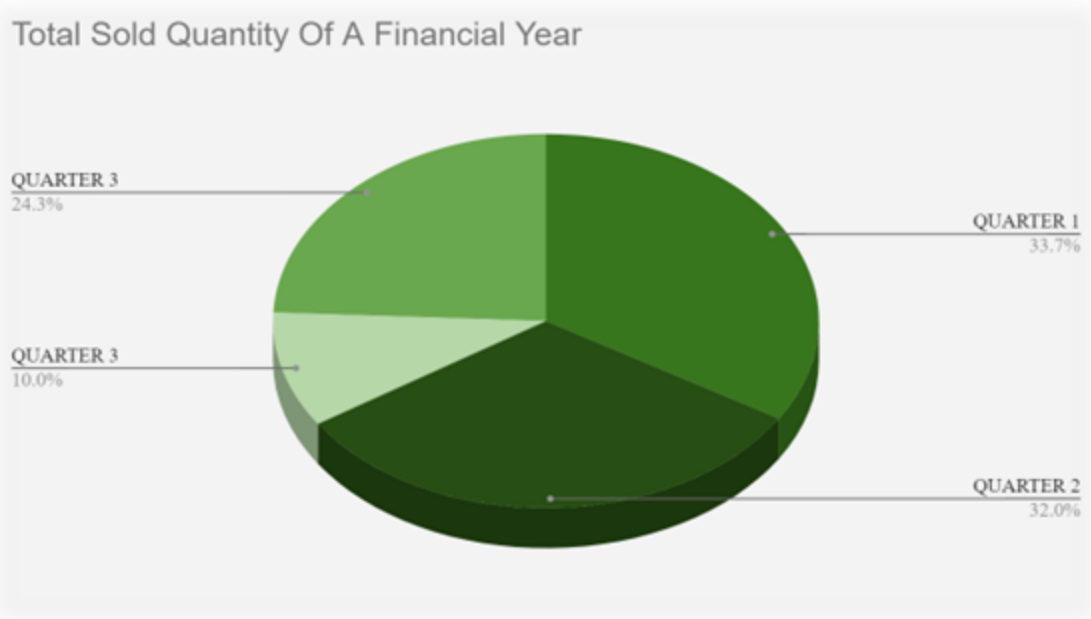
SQL Query :

```
select
  case
    when month(date) in(9, 10, 11) then '1'
    when month(date) in(12, 1, 2) then '2'
    when month(date) in(3, 4, 5) then '3'
    when month(date) in(6, 7, 8) then '4'
  end as QUARTER,
  sum(sold_quantity) as total_sold_quantity
from fact_sales_monthly
where fiscal_year = 2020
group by QUARTER
order by QUARTER;
```

Output :

	QUARTER	total_sold_quantity
▶	1	7005619
	2	6649642
	3	2075087
	4	5042541

Visualization:



Request 8: Highest Total Sold Quantity in 2020

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The quarterly total sold quantities present an intriguing dispersion pattern over the four quarters. The **first quarter** records the highest sales volume, with over **7 million units** sold, making it the most productive period. The **second quarter** follows closely, with approximately **6.6 million units** sold. However, the **third quarter** experiences a sharp decline, with sales dropping to around **2 million units**, roughly a third of the volume in the previous quarter. The **fourth quarter** shows an improvement, reporting sales of about **5 million units**.

This pattern suggests that the greatest demand occurs during the **early part of the year**, while the **latter half** exhibits more variability in sales performance, with a notable drop in the third quarter followed by a rebound in the fourth.



Request 9: Channel with Highest Gross Sales in 2021

SQL Query :

```
select
  channel,
  round(sum(fact_gross_price.gross_price * fact_sales_monthly.sold_quantity/1000000), 3) as gross_sales_mln,
  round(sum(fact_gross_price.gross_price * fact_sales_monthly.sold_quantity) /
    (select sum(fact_gross_price.gross_price * fact_sales_monthly.sold_quantity)
     from fact_sales_monthly
     inner join fact_gross_price
       ON fact_gross_price.product_code = fact_sales_monthly.product_code
     where fact_sales_monthly.fiscal_year = 2021) * 100 , 3) as percentage
from dim_customer
inner join fact_sales_monthly on dim_customer.customer_code = fact_sales_monthly.customer_code
inner join fact_gross_price on fact_gross_price.product_code = fact_sales_monthly.product_code
where fact_sales_monthly.fiscal_year = 2021
group by channel;
```



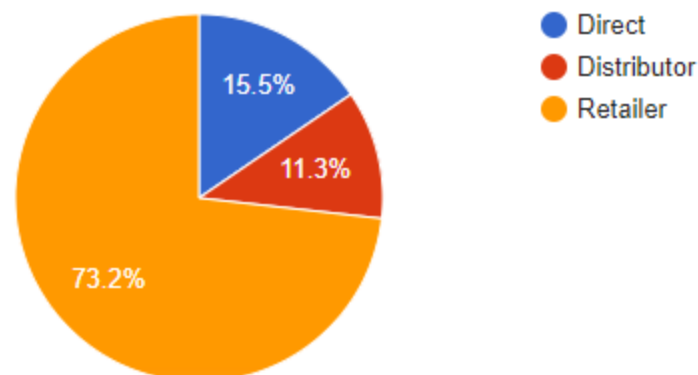
Request 10: Channel with Highest Gross Sales in 2021

Output :

	channel	channel	gross_sales_mln	percentage
▶	Direct	Direct	406.687	15.475
	Distributor	Distributor	297.176	11.308
	Retailer	Retailer	1924.170	73.217

Visualization:

Gross Sales by Channel in 2021



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Looking at the sales by channel, we see that the overwhelming majority comes from **retailers**, accounting for more than **73%** of total sales at **1924.17 million**. **Direct sales** contribute **15.5% (406.687 million)**, followed by **distributors** with the smallest share of **11.3% (297.176 million)**. This heavy dependence on retailers suggests a potential market vulnerability if these networks were disrupted, as the **direct** and **distributor** channels are nearly auxiliary. To mitigate such risks and seize growth opportunities, there is potential to **expand the distribution strategy**, diversifying sales channels to reduce reliance on retailers.

Request 10: Top 3 Products by Sold Quantity in 2021

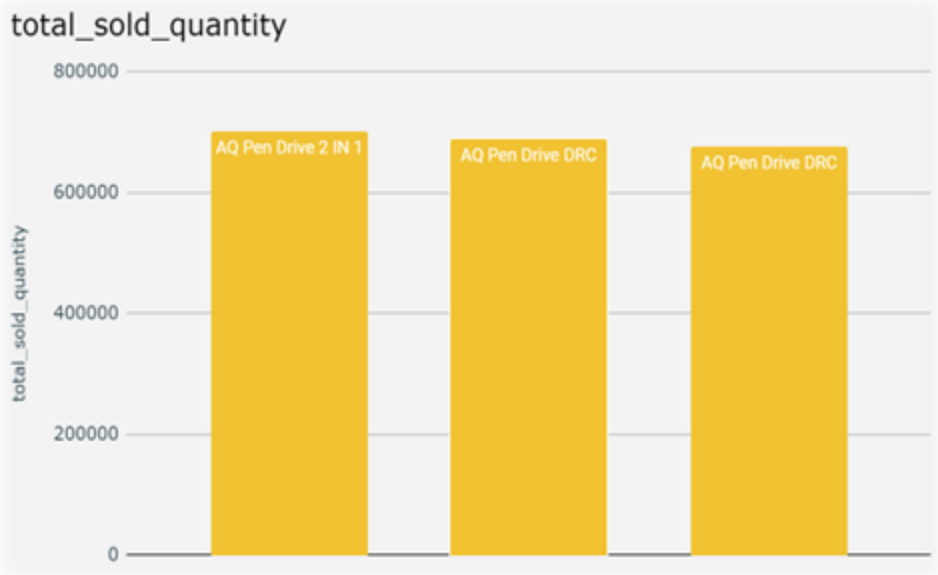
SQL Query :

```
with ranked as(
  select
    dim_product.division as division,
    dim_product.product_code as product_code,
    dim_product.product as product,
    sum(fact_sales_monthly.sold_quantity) as total_sold_quantity,
    rank() over(partition by dim_product.division order by sum(fact_sales_monthly.sold_quantity) desc) as
rank_order
  from dim_product
  inner join fact_sales_monthly on fact_sales_monthly.product_code = dim_product.product_code
  where fact_sales_monthly.fiscal_year = 2021
  group by dim_product.division, dim_product.product_code, dim_product.product
)
select
  division,
  product_code,
  product,
  total_sold_quantity,
  rank_order
from ranked
where rank_order<=3
order by division, total_sold_quantity desc;
```

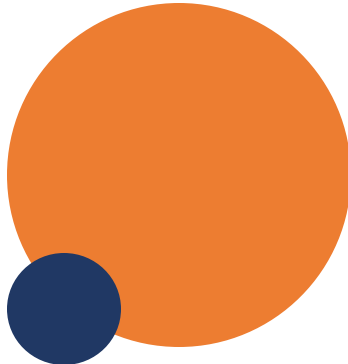
Output :

	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

Request 10: Top 3 Products by Sold Quantity in 2021



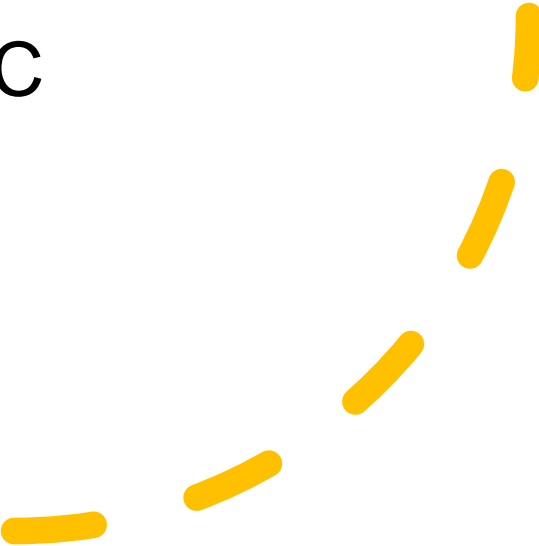
Division : N & S



Division : P & A



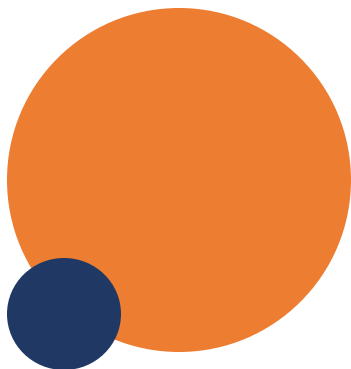
Division : PC



Request 10: Top 3 Products by Sold Quantity in 2021

INSIGTS

In the **N&S segment**, the **AQ Pen Drive 2 IN 1** emerged as the top-selling product with an impressive **7,01,373 units** sold in FY 2021, followed closely by two variants of **AQ Pen Drive DRC**, selling **6,88,003** and **6,76,245 units** respectively. In the **P&A division**, the **AQ Gamers Ms** led the sales with **4,28,498 units**, with two variants of **AQ Maxima Ms** also performing strongly. For the **PC segment**, the top-seller was the **AQ Digit PC**, although with a much smaller volume of **17,434 units**. This suggests that the **PC division** has significant room for improvement, and the company could consider strategic initiatives to boost sales in this area.





Thank you for your Time and
Attention