

# CONSUMER GOOD

## AD-HOC INSIGHTS

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# ABOUT ATLIQ HARDWARE

- AtliQ Hardware is a leading computer hardware manufacturer based in India with a significant global footprint. Our commitment lies in providing cutting-edge and dependable hardware solutions that propel technological advancement worldwide.
- AtliQ Hardware is dedicated to pushing the boundaries of technology. Our research and development teams work tirelessly to innovate and develop next-generation hardware solutions that cater to the evolving demands of the tech industry.
- The management team at AtliQ Hardware has identified a crucial need: the absence of readily accessible and insightful data that can support swift and informed decision-making processes. This gap has underscored the importance of robust data analytics capabilities within the company.

# PROBLEM STATEMENT

**AtliQ Hardware faces the challenge of delivering timely and actionable insights in response to 10 ad hoc requests. The absence of these insights hampers the ability to make quick, data-driven decisions essential for maintaining our competitive edge.**

# AD-HOC REQUESTS

## 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`
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`  
product  
`total_sold_quantity`  
`rank_order`



# REQUEST 1

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

```
SELECT market FROM gdb023.dim_customer
WHERE customer LIKE "%Atliq Exclusive%"
AND region LIKE "%APAC%"
```

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



# REQUEST 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

```
WITH cte1 AS (
  SELECT COUNT(DISTINCT product_code) AS unique_products_2020
  FROM gdb023.fact_gross_price
  WHERE fiscal_year = 2020
),
cte2 AS (
  SELECT COUNT(DISTINCT product_code) AS unique_products_2021
  FROM gdb023.fact_gross_price
  WHERE fiscal_year = 2021
)
SELECT
  cte1.unique_products_2020,
  cte2.unique_products_2021,
  ROUND((cte2.unique_products_2021 - cte1.unique_products_2020) / cte1.unique_products_2020 * 100, 2) AS percentage_change
FROM
  cte1, cte2;
```



	unique_products_2020	unique_products_2021	percentage_change
▶	245	334	36.33

# REQUEST 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

```
SELECT segment, COUNT(product_code) AS product_count
FROM dim_product
GROUP BY segment
ORDER BY product_count DESC;
```

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





# REQUEST 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

```
WITH cte1 AS (
    SELECT p.segment, COUNT(DISTINCT p.product_code) AS product_count_2020
    FROM dim_product p
    JOIN fact_gross_price f ON p.product_code = f.product_code
    WHERE f.fiscal_year = 2020
    GROUP BY p.segment
),
cte2 AS (
    SELECT p.segment, COUNT(DISTINCT p.product_code) AS product_count_2021
    FROM dim_product p
    JOIN fact_gross_price f ON p.product_code = f.product_code
    WHERE f.fiscal_year = 2021
    GROUP BY p.segment
)
SELECT
    cte1.segment,
    cte1.product_count_2020,
    cte2.product_count_2021,
    (cte2.product_count_2021 - cte1.product_count_2020) AS difference
FROM cte1
JOIN cte2 ON cte1.segment = cte2.segment
ORDER BY difference DESC;
```

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



# REQUEST 5

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

The final output should contain these fields, product\_code  
productmanufacturing\_cost

```
* select m.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 asc;
```



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

# 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. The final output contains these fields, `customer_code`, `customer`, `average_discount_percentage`

```

SELECT c.customer,
       c.customer_code,
       AVG(pre.pre_invoice_discount_pct * 100) AS average_discount_percentage
FROM fact_pre_invoice_deductions pre
JOIN dim_customer c
ON pre.customer_code = c.customer_code
WHERE pre.fiscal_year = 2021
      AND c.market = 'India'
GROUP BY c.customer, c.customer_code
ORDER BY average_discount_percentage DESC
LIMIT 5;

```



	customer	customer_code	average_discount_percentage
▶	Flipkart	90002009	30.83000000
	Viveks	90002006	30.38000000
	Ezone	90002003	30.28000000
	Croma	90002002	30.25000000
	Amazon	90002016	29.33000000

# REQUEST 7

Get the complete report of the Gross sales amount for the customer “AtliqExclusive” 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

```
SELECT
    CONCAT(MONTHNAME(s.date), '(' , YEAR(s.date), ')') AS month,
    g.fiscal_year,
    CONCAT(ROUND((SUM(g.gross_price * s.sold_quantity) / 1000000),2), 'M') AS Total_gross_price
FROM
    fact_gross_price g
JOIN
    fact_sales_monthly s ON g.product_code = s.product_code AND g.fiscal_year = s.fiscal_year
JOIN
    dim_customer c ON s.customer_code = c.customer_code
WHERE
    c.customer = 'Atliq Exclusive'
GROUP BY
    s.date,
    s.fiscal_year
```

month	fiscal_year	Total_gross_price
September(2019)	2020	4.50M
November(2019)	2020	7.52M
December(2019)	2020	4.83M
January(2020)	2020	4.74M
March(2020)	2020	0.38M
April(2020)	2020	0.40M
May(2020)	2020	0.78M
July(2020)	2020	2.55M
August(2020)	2020	2.79M
October(2019)	2020	5.14M
February(2020)	2020	4.00M
June(2020)	2020	1.70M
September(2020)	2021	12.35M
November(2020)	2021	20.46M
December(2020)	2021	12.94M
January(2021)	2021	12.40M
March(2021)	2021	12.14M
April(2021)	2021	7.31M
May(2021)	2021	12.15M
July(2021)	2021	12.09M
August(2021)	2021	7.18M



# REQUEST 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

```
SELECT
  CASE
    WHEN MONTH(s.date) IN (9, 10, 11) THEN 'Q1'
    WHEN MONTH(s.date) IN (12, 1, 2) THEN 'Q2'
    WHEN MONTH(s.date) IN (3, 4, 5) THEN 'Q3'
    WHEN MONTH(s.date) IN (6, 7, 8) THEN 'Q4'
  END AS Quarters,
  SUM(s.sold_quantity) AS Total_sold_quantity
FROM
  fact_sales_monthly s
WHERE
  s.fiscal_year = '2020'
GROUP BY
  Quarters
```

Quarters	Total_sold_quantity
Q1	7005619
Q2	6649642
Q3	2075087
Q4	5042541



# REQUEST 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**

```
WITH Output AS
(
  SELECT C.channel,
         ROUND(SUM(G.gross_price*FS.sold_quantity/1000000), 2) AS Gross_sales_mln
  FROM fact_sales_monthly FS JOIN dim_customer C ON FS.customer_code = C.customer_code
                        JOIN fact_gross_price G ON FS.product_code = G.product_code
  WHERE FS.fiscal_year = 2021
  GROUP BY channel
)
SELECT channel, CONCAT(Gross_sales_mln, ' M') AS Gross_sales_mln, CONCAT(ROUND(Gross_sales_mln*100/total, 2), ' %') AS percentage
FROM
(
  (SELECT SUM(Gross_sales_mln) AS total FROM Output) A,
  (SELECT * FROM Output) B
)
ORDER BY percentage DESC ;
```



channel	Gross_sales_mln	percentage
Retailer	1924.17 M	73.22 %
Direct	406.69 M	15.48 %
Distributor	297.18 M	11.31 %



# REQUEST 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, divisionproduct\_code product total\_sold\_quantity rank\_order

```
WITH Output1 AS
(
    SELECT P.division, FS.product_code, P.product, SUM(FS.sold_quantity) AS Total_sold_quantity
    FROM dim_product P JOIN fact_sales_monthly FS
    ON P.product_code = FS.product_code
    WHERE FS.fiscal_year = 2021
    GROUP BY FS.product_code, division, P.product
),
Output2 AS
(
    SELECT division, product_code, product, Total_sold_quantity,
           RANK() OVER(PARTITION BY division ORDER BY Total_sold_quantity DESC) AS 'Rank_Order'
    FROM Output1
)
SELECT Output1.division, Output1.product_code, Output1.product, Output2.Total_sold_quantity, Output2.Rank_Order
FROM Output1 JOIN Output2
ON Output1.product_code = Output2.product_code
WHERE Output2.Rank_Order IN (1,2,3)
```

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



# THANK YOU

