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ABOUT AtliQ HARDWARE, BACKGROUND AND THE CONTEXT

CODE BASICS

- **About Atliq Hardware :** It is a top-tier computer hardware manufacturer in India with a strong international presence. We are dedicated to delivering innovative and reliable hardware solutions that drive technology forward globally.
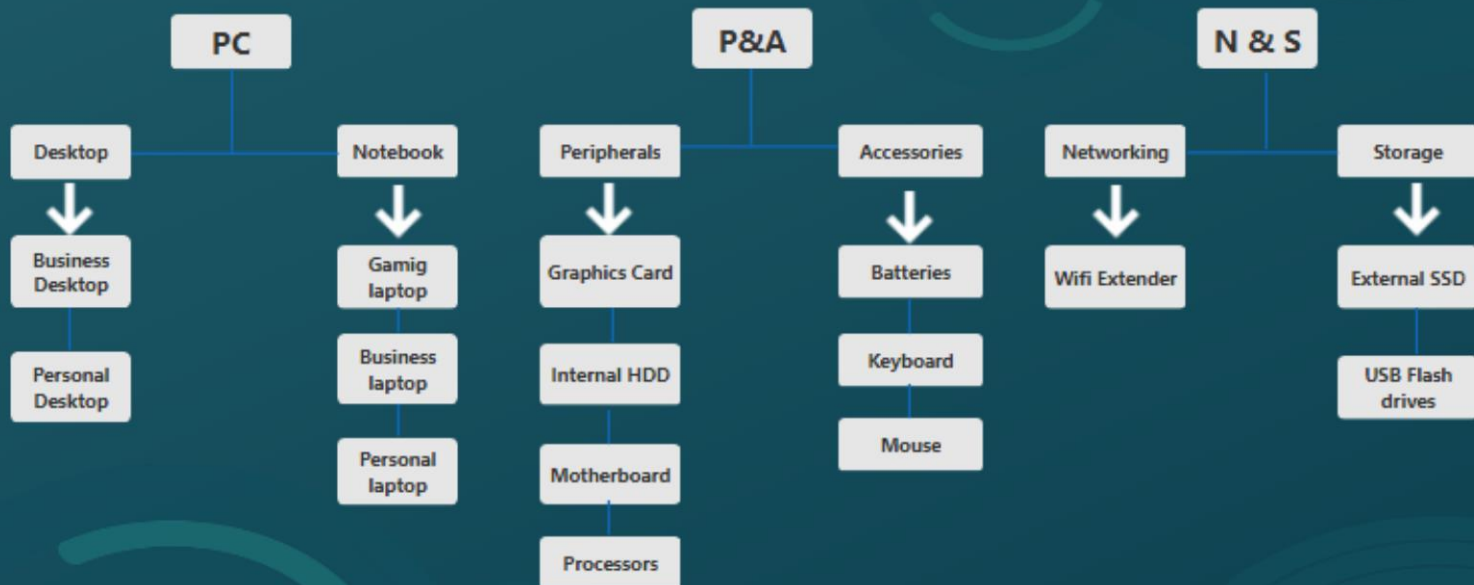
- **Background :** The management has recognized a critical need: the lack of readily available, insightful data that facilitates quick and astute decision-making.

- **Problem :** The company requires insights for 10 ad hoc requests.

  Solution : Execute a SQL query to address these requests, visualize the findings, and present the insights to senior management.

AtliQ's PRODUCT LINES

PC

- **Desktop**
  - Business Desktop
    - Personal Desktop
- **Notebook**
  - Gamig laptop
  - Business laptop
  - Personal laptop

P&A

- **Peripherals**
  - Graphics Card
    - Internal HDD
    - Motherboard
    - Processors
- **Accessories**
  - Batteries
    - Keyboard
    - Mouse

N & S

- **Networking**
  - Wifi Extender
- **Storage**
  - External SSD
    - USB Flash drives

Ad-hoc Requests , queried results , Insights and visualizations

Ad-hoc Request 1:

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

QUERY

```sql
SELECT distinct market
from dim_customer
WHERE customer= "Atliq Exclusive" and region = "APAC" ;
```

RESULT

	market
▶	India
	Indonesia
	Japan
	Philiphines
	South Korea
	Australia
	Newzealand
	Bangladesh

INSIGHTS

✔ AtliQ Exclusive operates across eight countries in the APAC region, showcasing a substantial presence in the regional market.

Ad-hoc Request 2:

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

QUERY

```
1   with Cte1 as
2   (
3      Select count(distinct product_code) as unique_product_2020
4      from fact_sales_monthly
5      where fiscal_year="2020"
6   ),
7   cte2 as(
8      Select count(distinct product_code) as unique_product_2021
9      from fact_sales_monthly
10     where fiscal_year="2021"
11  )
12
13  select
14  c1.unique_product_2020,c2.unique_product_2021,
15  round((c2.unique_product_2021-c1.unique_product_2020)*100/c1.unique_product_2020,2) as Percentage_chg
16  from cte1 c1
```

RESULT

	unique_product_2020	unique_product_2021	Percentage_chg
▶	245	334	36.33
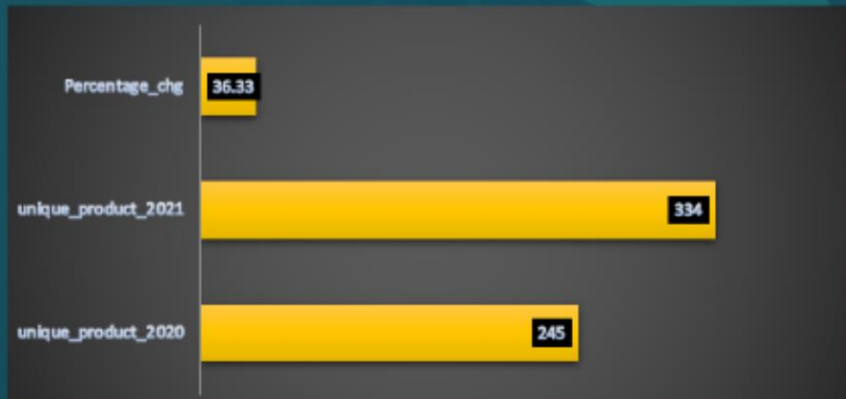
INSIGHTS

✔ Product Growth: The number of unique products expanded from 245 in 2020 to 334 in 2021, reflecting a 36.33% growth.

✔ Company Commitment: This notable increase underscores the company's dedication to innovation and catering to diverse customer needs.

Ad-hoc Request 3:

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

```
1    SELECT segment, count(distinct product) as product_count
2    FROM dim_product
3    group by segment
4    order by product_count desc;
```

RESULT

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

Product_count by Segment
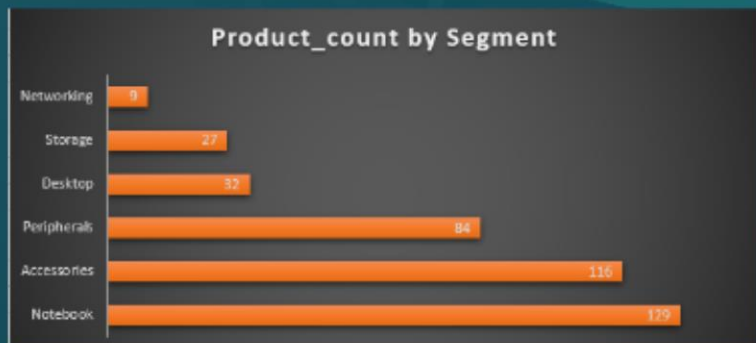
INSIGHTS

✔ Notebook and Accessory Dominance: AtliQ excels in the notebooks, accessories, and peripherals segment, which constitutes an impressive 82.87% of its product range.

✔ Smaller Segments: Desktops, storage, and networking collectively represent a modest 17.13% of AtliQ's product portfolio.

✔ Strategic Focus Areas: In the desktops, storage, and networking segments, AtliQ should prioritize increasing product count while aligning with current customer trends and industry demands.

Ad-hoc Request 4:

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

QUERY

RESULT

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
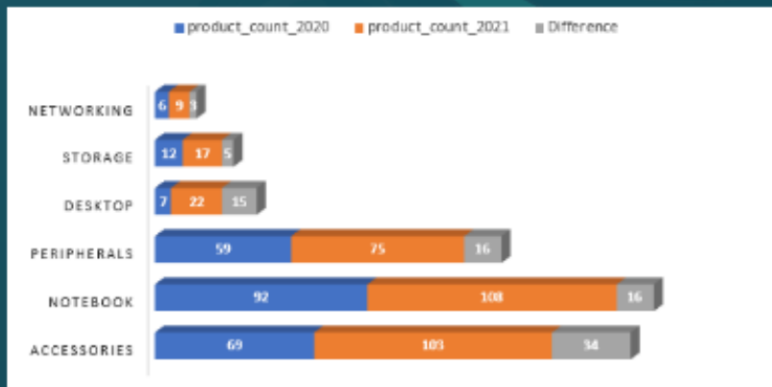
INSIGHTS

In 2021, AtliQ Hardware prioritized expanding its presence in the accessories market, launching 34 new accessory products.

Ad-hoc Request 5:

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


```sql
1  SELECT
2      m.product_code,
3      p.product,
4      m.manufacturing_cost
5  from dim_product p
6  JOIN fact_manufacturing_cost m
7  USING (product_code)
8  WHERE manufacturing_cost= (SELECT max(manufacturing_cost) from fact_manufacturing_cost)
9  or manufacturing_cost = (SELECT min(manufacturing_cost) from fact_manufacturing_cost)
10 order by manufacturing_cost desc
```

QUERY

RESULT

product_code	product	manufacturing_cost
A6120110206	AQ HOME AllIn1 Gen 2	240.5364
A2118150101	AQ Master wired x1 Ms	0.8920

Highest Manufacturing product

$240.54
A6120110206

AQ HOME AllIn 1 Gen 2

Personal desktop

Lowest Manufacturing product

$0.89
A2118150101

AQ Master wired x1 Ms

Mouse

Ad-hoc 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.

QUERY

```
1    SELECT
2    preinv.customer_code,
3    c.customer,
4    round(avg(pre_invoice_discount_pct)*100,2) as avearge_discount_percentage
5    from fact_pre_invoice_deductions preinv
6    JOIN dim_customer c
7    USING (customer_code)
8    where preinv.fiscal_year = 2021 and c.market = "India"
9    group by c.customer, preinv.customer_code
10   order by avearge_discount_percentage desc
11   limit 5;
```

RESULT

customer_code	customer	avearge_discount_percentage
90002009	Flipkart	30.83
90002006	Viveks	30.38
90002003	Ezone	30.28
90002002	Croma	30.25
90002016	Amazon	29.33

AVEARGE_DISCOUNT_PERCENTAGE

30.83	30.38	30.28	30.25	29.33
Flipkart	Viveks	Ezone	Croma	Amazon
90002009	90002006	90002003	90002002	90002016

INSIGHTS

In 2021, Flipkart enjoyed the highest pre-invoice discount in the Indian market at 30.83%. Reflecting this competitive stance, AtliQ extended similar pre-invoice discount rates to its top five clients.

Ad-hoc Request 7:

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

QUERY

```sql
Select CONCAT(MONTHNAME(s.date), ' (', YEAR(s.date), ')') as Month,s.fiscal_year as Year,
Concat(round(sum((g.gross_price*s.sold_quantity))/1000000,2),'M') as Gross_Sales_Amount
from fact_gross_price g
join fact_sales_monthly s
using(product_code,fiscal_year)
join dim_customer c
using(customer_code)
where c.customer="Atliq Exclusive"
group by s.date, s.fiscal_year
Order by Year ;
```

RESULT

Month	Year	Gross_Sales_Amount
September (2019)	2020	4.50M
October (2019)	2020	5.14M
November (2019)	2020	7.52M
December (2019)	2020	4.83M
January (2020)	2020	4.74M
February (2020)	2020	4.00M
March (2020)	2020	0.38M
April (2020)	2020	0.40M
May (2020)	2020	0.78M
June (2020)	2020	1.70M
July (2020)	2020	2.55M
August (2020)	2020	2.79M
September (2020)	2021	12.35M
October (2020)	2021	13.22M
November (2020)	2021	20.46M
December (2020)	2021	12.94M
January (2021)	2021	12.40M
February (2021)	2021	10.13M
March (2021)	2021	12.14M
April (2021)	2021	7.31M

INSIGHTS

- Peak Sales: AtliQ Exclusive achieved its highest sales in November 2020.
- Lowest Sales: March 2020 marked the lowest sales point.
- Impact of COVID-19: The decrease in sales from March to August 2020 was linked to the repercussions of COVID-19.
- Recovery and Resilience: Sales have steadily recovered post-pandemic, demonstrating resilience and surpassing the levels observed in 2020.

Ad-hoc Request 8:

In which quarter of 2020, got the maximum total_sold_quantity?

QUERY

```
12 •    Select
13    ⊖ case
14      when month(date) in (9,10,11) then "Q1"
15      when month(date) in (12,1,2) then "Q2"
16      when month(date) in (3,4,5) then "Q3"
17      when month(date) in (6,7,8) then "Q4"
18      end as Quarters, Concat(Round(sum(sold_quantity),2)) as Total_sold_quantity_mln
19      from fact_sales_monthly
20      where fiscal_year=2020
21      group by Quarters
22      order by Total_sold_quantity_mln desc;
```
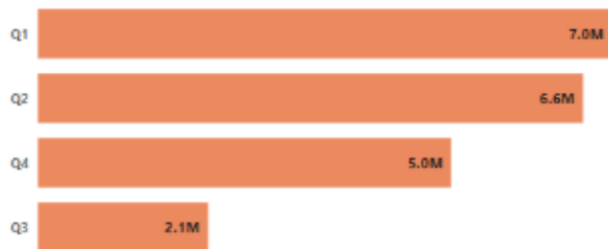
RESULT

Quarters	Total_sold_quantity_mln
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087

Sum of Total_sold_quantity_mln by Quarters

Quarter	Value
Q1	7.0M
Q2	6.6M
Q4	5.0M
Q3	2.1M

INSIGHTS

- Third Quarter of FY 2020: During March, April, and May, characterized by COVID-19 peak and extensive lockdowns, sales sharply declined to 2.1 million units.

- Surge in Demand: Interestingly, there was a notable surge in demand for computer accessories during this period, likely due to a large number of students beginning or continuing their coursework online.

- Impact on Rebound: This increased demand possibly played a role in the early rebound observed in the fourth quarter.

Ad-hoc Request 9:

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

QUERY

```sql
1   WITH cte1 AS (
2       SELECT
3       c.channel,
4       ROUND(SUM((g.gross_price * s.sold_quantity)) / 1000000, 2) AS Gross_Sales_Mln
5       FROM fact_gross_price g
6       JOIN fact_sales_monthly s USING (product_code,fiscal_year)
7       JOIN dim_customer c USING (customer_code)
8       GROUP BY c.channel
9   )
10  SELECT channel, Concat(Gross_Sales_Mln,'M') as Gross_Sales_Mln,
11  Concat(ROUND((Gross_Sales_Mln / SUM(Gross_Sales_Mln) OVER ()) * 100, 2),'%')  AS Percentage_Contribution
12  FROM cte1
13  Order by Gross_Sales_Mln
```

RESULT

channel	Gross_Sales_Mln	Percentage_Contribution
Retailer	1598.16M	72.62%
Distributor	248.47M	11.29%
Direct	353.96M	16.08%

Percentage_Contribution

- Retailer 1598.16M
- Distributor 248.47M
- Direct 353.96M

16%
11%
73%
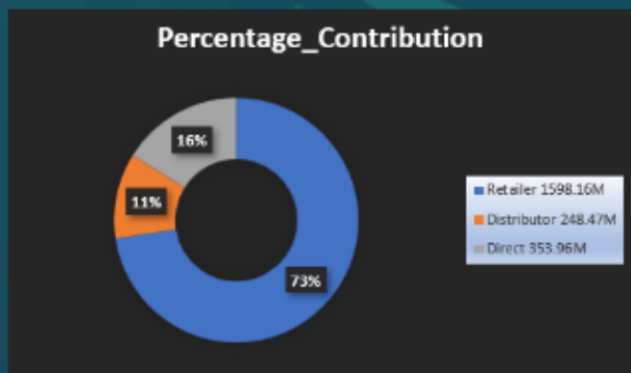
INSIGHTS

✓ Retailer Sales Dominance: The majority of AtliQ's overall sales, accounting for a significant 73%, are conducted through retailers.

✓ Substantial Revenue Contribution: Sales through retailers form a substantial portion of AtliQ's total revenue.

✓ Direct and Distributor Channels: In contrast, sales through direct and distributor channels constitute a comparatively smaller share of the company's total revenue.

Ad-hoc Request 10:

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

QUERY

```
1    with cte1 as
2    (
3    Select p.division,s.product_code,p.product,sum(sold_quantity) as Total_sold_quantity
4
5    From fact_sales_monthly s
6    join dim_product p
7    using(product_code)
8    where s.fiscal_year="2021"
9    group by p.division,s.product_code,p.product
10   ),
11   cte2 as(
12   Select *,rank() over(partition by division order by Total_sold_quantity desc) AS rnk
13   From cte1)
14   Select *
15   From Cte2
```

RESULT

division	product_code	product	Total_sold_quantity	rnk
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
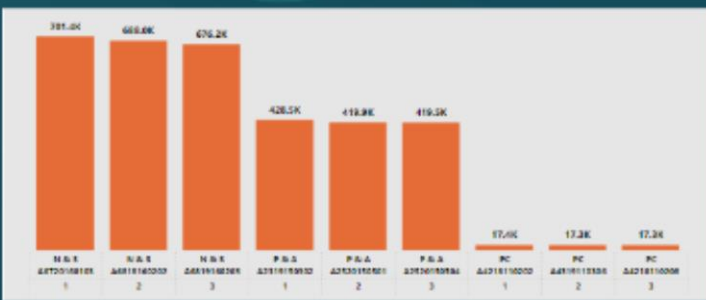
INSIGHTS

✓ In the N&S division, the top three best-selling products were pen drives.

✓ In the P&A division, the leading products were pen mice.

✓ Within the PC division, laptops emerged as the top three best-selling products.

KEY STRATEGIES TO ELEVATE AtliQ's SALES PERFORMANCE

- **Deliver Exceptional Customer Service**: Prioritize outstanding support to foster lasting relationships.

- **Deploy a Comprehensive Marketing Strategy**: Utilize diverse channels to broaden audience reach.

- **Cultivate a Distinctive Brand Identity**: Clearly communicate AtliQ's unique value proposition.

- **Invest in Sales Team Training**: Enhance sales effectiveness through dedicated training.

- **Offer Competitive Pricing and Promotions**: Provide attractive pricing and promotional offers.

- **Expand and Refine Product Offerings**: Continuously improve and align products with market demands.

- **Regularly Collect Customer Feedback**: Systematically gather feedback to drive continuous improvement.

Thanks for your time and attention