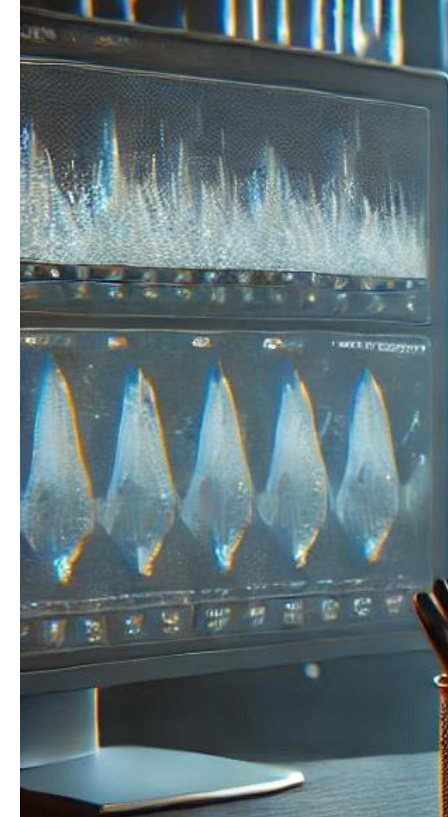


# ADHOC ANALYSIS

ATLIQ







# Identifying the Challenge at AtliQ Hardware

Addressing Data-Driven Decision-Making Needs



## Gap in Actionable Insights

Management recognized a significant gap in insights needed for strategy.



## Formation of Analytics Team

To bridge the gap, a dedicated data analytics team was established.



## SQL Project Initiation

I was tasked with an SQL project to fulfill 10 ad-hoc data requests.



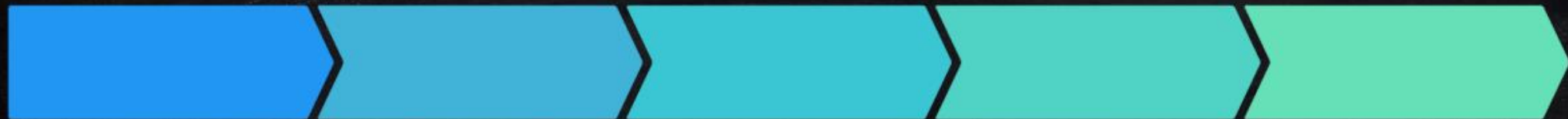
## Extracting Valuable Insights

The project aimed to extract insights crucial for strategic business moves.



# Significant Insights on Product Growth

Analysis of Key Metrics from 2020 to 2021



## Product Growth

Unique products surged from 245 in 2020 to 334 in 2021, indicating a robust market expansion.

## Segment Analysis

Leading the pack, the 'Notebook' segment boasts 129 distinct products, showcasing consumer preference.

## Accessories Growth

The 'Accessories' segment saw a notable increase of 34 products, reflecting evolving customer demands.

## Sales Trends

'Flipkart' currently provides the highest average pre-invoice discount at 30.83%, enhancing sales competitiveness.

## Retailer Contribution

The 'Retailer' channel is pivotal, contributing 73.22% to gross sales, underscoring its strategic importance.

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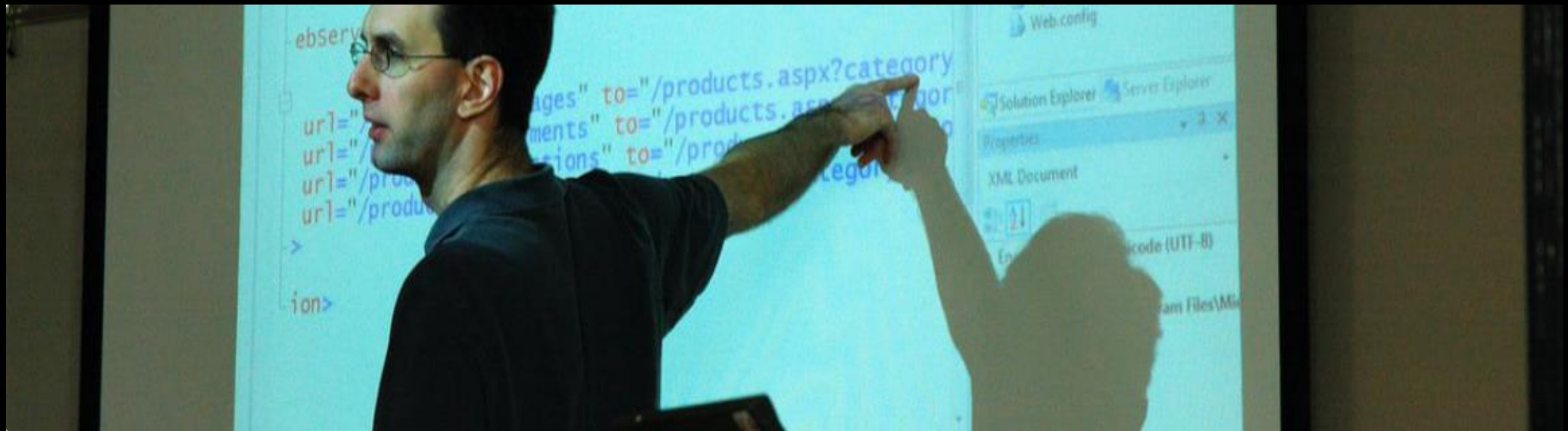
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# 10 Adhoc requests for Analysis

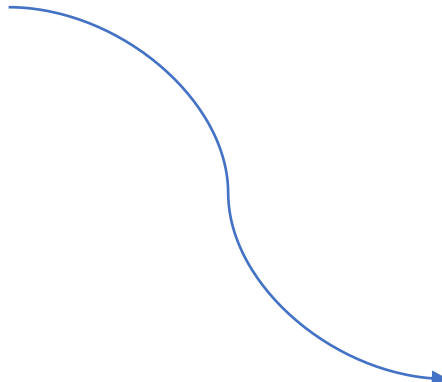
- Without further Ado lets dive in deeper on the various Adhoc request which gave us such valuable insights
- Upcoming slides contain the Problem statement and their resolution.





Provide the list of market in which customer Atliq Exclusive” operates its business in APAC region

```
SELECT market FROM gdb0041.dim_customer  
where customer = "Atliq Exclusive" and region = "APAC"  
group by market  
order by market;
```



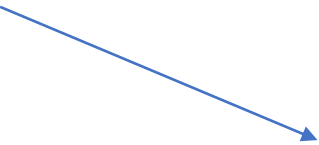
	market
▶	Australia
	Bangladesh
	India
	Indonesia
	Japan
	Newzealand
	Philiphines
	South Korea





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

```
WITH X AS
(SELECT COUNT(DISTINCT product_code) AS unique_products_2020
FROM fact_sales_monthly WHERE fiscal_year= 2020),
Y AS
(SELECT COUNT(DISTINCT product_code) AS unique_products_2021
FROM fact_sales_monthly WHERE fiscal_year= 2021)
SELECT
X.unique_products_2020,
Y.unique_products_2021,
round(((Y.unique_products_2021-X.unique_products_2020)/X.unique_products_2020)*100,2)
AS Percentage_chg FROM X,Y;
```

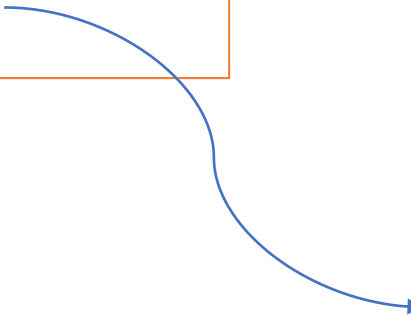


unique_products_2020	unique_products_2021	Percentage_chg
245	334	36.33



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 * from dim_product;
select
    segment,
    count(distinct(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



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 dp.segment as A, count(distinct fs.product_code) as B
from fact_sales_monthly fs
join dim_product dp
on fs.product_code=dp. product_code
group by dp.segment , fs.fiscal_year
having fs.fiscal_year=2020
),
cte2 as(
select dp.segment as C, count(distinct fs.product_code) as D
from fact_sales_monthly fs
join dim_product dp
on fs.product_code=dp. product_code
group by dp.segment, fs.fiscal_year
having fs.fiscal_year= 2021
)
select cte1.A as segment,
       cte1.B as product_code_2020,
       cte2. D as product_code_2021,
       (cte2.D-cte1.B) as difference
from cte1,cte2
where cte1.A=cte2.C;
```

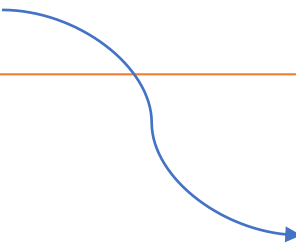
segment	product_code_2020	product_code_2021	difference
Accessories	69	103	34
Desktop	7	22	15
Networking	6	9	3
Notebook	92	108	16
Peripherals	59	75	16
Storage	12	17	5





Get the products The final output that have the highest and lowest manufacturing costs should contain these fields, product\_code, product

```
select
    m.product_code,
    p.product,
    m.manufacturing_cost
from fact_manufacturing_cost m
join dim_product p
on m.product_code= p.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;
```



	product_code	product	manufacturing_cost
▶	A6121110208	AQ HOME Allin1 Gen 2	263.4207
	A2118150101	AQ Master wired x1 Ms	0.8654



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.

```
with cte1 as (select customer_code as A , Avg(pre_invoice_discount_pct) as B
  from fact_pre_invoice_deductions
 where fiscal_year = 2021
 group by customer_code),

cte2 as ( select customer_code as C, customer as D
  from dim_customer
 where market ="India")

select cte2.C as customer_code,
       cte2.D as cutsomer,
       round(cte1.B,4) as Average_discount_percentage
from cte1,cte2
where cte1.A= cte2.C
order by Average_discount_percentage desc
limit 5;
```

	customer_code	cutsomer	Average_discount_percentage
▶	90002009	Flipkart	0.3083
	90002006	Viveks	0.3038
	90002003	Ezone	0.3028
	90002002	Croma	0.3025
	90002016	Amazon	0.2933



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.

```
select monthname(s.date)as month,s.fiscal_year,
round(sum(g.gross_price*sold_quantity),2)
as gross_sales_amt from fact_sales_monthly s
join dim_customer c using(customer_code)
join fact_gross_price g using(product_code)
where customer="atliq exclusive"
group by monthname(s.date),s.fiscal_year
order by fiscal_year;
```

month	fiscal_year	gross_sales_amt
September	2018	2347703.88
October	2018	2462780.55
November	2018	3766114.43
December	2018	2390015.56
January	2018	2285937.67
February	2018	1985466.36
March	2018	2219880.14
April	2018	1392024.51
May	2018	2310946.52
June	2018	1976109.61
July	2018	2224693.76
August	2018	1498728.56
September	2019	7860039.25





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(date) IN (9,10,11) THEN 'Q1'
        WHEN MONTH(date) IN (12,01,02) THEN 'Q2'
        WHEN MONTH(date) IN (03,04,05) THEN 'Q3'
        ELSE 'Q4'
    END AS Quarters,
    SUM(sold_quantity) AS total_sold_quantity
FROM fact_sales_monthly
WHERE fiscal_year = 2020
GROUP BY Quarters
ORDER BY total_sold_quantity DESC;
```



Quarters	total_sold_quantity
Q1	7005619
Q2	6649642
Q4	5042541
Q3	2075087



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 min percentage.

```
with x as(select c.channel,  
round(sum(g.gross_price*s.sold_quantity)/100000,2)as gross_sales_mln  
from fact_sales_monthly s  
join dim_customer c using(customer_code)  
join fact_gross_price g using(product_code)  
group by c.channel)  
  
select channel, gross_sales_mln,  
round((gross_sales_mln/(select sum(gross_sales_mln)from x))*100,2)  
as pct from x  
order by gross_sales_mln desc
```



channel	gross_sales_mln	pct
Retailer	124419.42	72.70
Direct	26742.67	15.63
Distributor	19986.24	11.68



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.

```
WITH X AS ( SELECT
    P.division, S.product_code, P.product,
    SUM(S.sold_quantity) AS total_sold_quantity,
    RANK() OVER(PARTITION BY P.division
    ORDER BY SUM(S.sold_quantity) DESC) AS Rank_Order
FROM dim_product P
JOIN fact_sales_monthly S ON P.product_code = S.product_code
WHERE S.fiscal_year = 2021
GROUP BY P.division, S.product_code, P.product)

SELECT division, product_code, product,
    total_sold_quantity, Rank_Order
FROM X
WHERE Rank_Order IN (1,2,3)
ORDER BY division, Rank_Order;
```

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





# Conclusion and Key Takeaways

Insights from the SQL project for AtliQ Hardwares



**01 Data-driven insights boost strategies**

Utilizing data analytics enhances decision-making and refines business strategies.

**02 Continuous evaluation is vital**

Regular assessments of product performance and market trends enable timely adjustments.

**03 SQL enhances operational efficiency**

Implementing SQL tools improves data handling, leading to better operational decisions.



# Thank You