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# Identifying the Challenge at AtliQ Hardwares

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.



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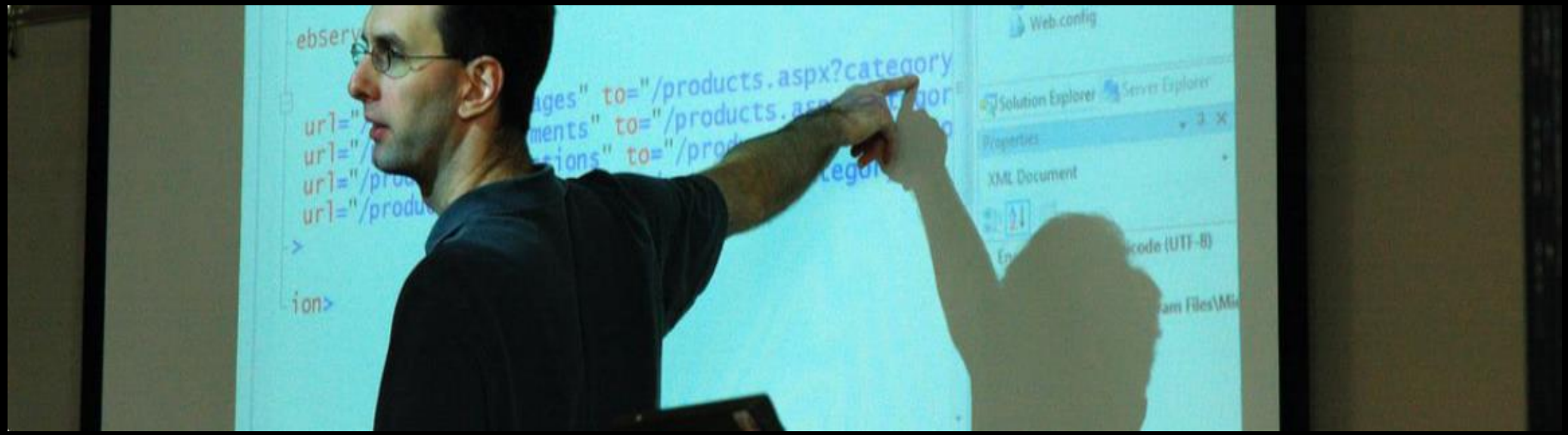
# 10 Adhoc requests for Analysis

- 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

```sql
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 |



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## 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 |



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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.

```sql
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 |



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## 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.

```sql
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 |



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

```sql
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 |



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## 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.

```sql
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 |



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**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 |



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**Which quarter of 2020, got the maximum total_sold_quantity? The final output contains these fields sorted by the total_sold_quantiy, Quarter,total_sold_quantity.**

```sql
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 |



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## 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.

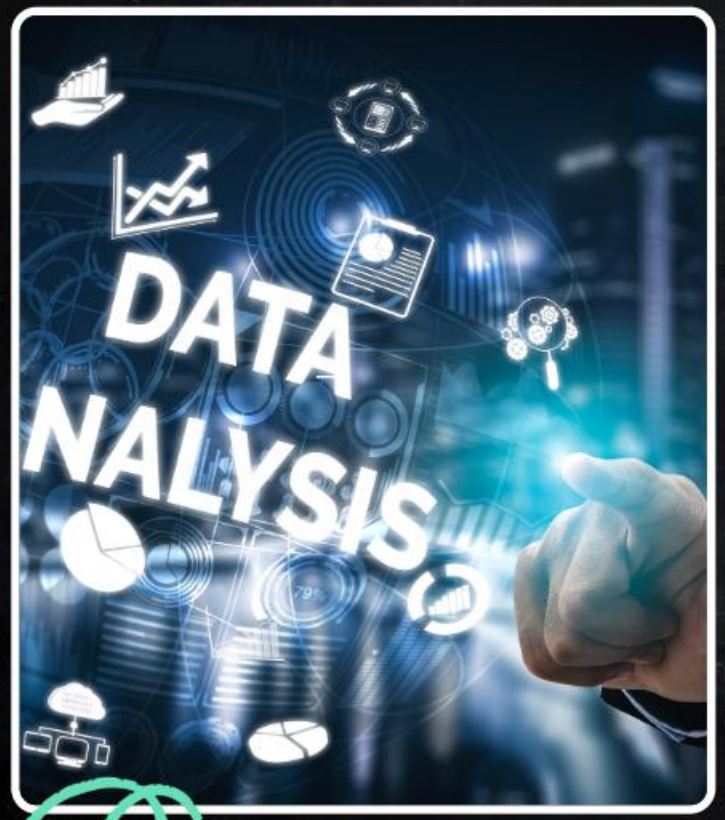
```sql
WITH X AS ( SELECT
    P.division, S.product_code, P.product,
    SUM(S.sold_quantity) AS total_sold_quantity,
RANK() OVER(PARTITION BY P.division
ORDER BY SUM(S.sold_quantity) DESC) AS Rank_Order
FROM dim_product P
JOIN fact_sales_monthly S ON P.product_code = S.product_code
WHERE S.fiscal_year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



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# Thank You

AtliQ Hardwares

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